



MAY 1994

**FIRST QUARTER 1994 PROGRESS REPORT
L.E. CARPENTER SITE
WHARTON, NEW JERSEY**

**Prepared on behalf of L.E. CARPENTER AND COMPANY
for the New Jersey Department of Environmental
Protection and Energy**

May 1994

W.O. No.: 06720-018-001

Prepared by:

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346030





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1.0 GROUNDWATER ACTIVITIES

Quarterly sampling of groundwater monitoring wells MW-4, MW-14S, MW-15S, MW-22, and MW-25 was conducted on March 1994. On 31 March 1994, WESTON personnel collected quarterly groundwater levels and product thickness measurements at the L.E. Carpenter site. On 22 April 1994, an additional round of water level measurements were collected from the deep wells. All groundwater samples collected were analyzed for benzene, toluene, ethylbenzene, and xylene (BTEX). Additionally, this report presents a summary of product recovery activities and recent modifications to the immiscible product recovery system.

1.1 GROUNDWATER LEVEL MEASUREMENT

Water level and product thickness measurements were obtained using an oil/water interface probe at all of the wells and well points at the site. Water level measurements were also collected at eight (8) staff gauges and at the RP-1 measurement point on the concrete wall adjacent to the Rockaway River. Surface water elevations collected at the staff gauges and RP-1 were determined by measuring the vertical distance between the surveyed top of the staff gauge or paint mark, and the water surface. During the initial round of groundwater level measurements, MW-14D and MW18D were observed to be under artesian conditions due to heavy precipitation and spring thaw which recharged the bedrock aquifer. In order to more accurately define groundwater flow direction within the deep aquifer zone, a subsequent round of water levels was collected from the deep wells on 22 April 1994.

1.2 GROUNDWATER SAMPLING

Groundwater monitoring wells MW-4, MW-14S, MW15S, MW-22, and MW-25 were sampled and analyzed for BTEX (U.S. EPA Method 602) on 10 March 1994. Dedicated well wizard bladder pumps were utilized to purge a minimum of three well volumes prior to sampling MW-4, MW14S, MW-22, and MW-25. Groundwater monitoring well MW-15S was sampled using a laboratory decontaminated teflon bailer to purge a minimum of three well volumes prior to sample collection. All samples were collected in accordance with NJDEPE "Field Sampling Procedures Manual" dated May 1992.

All samples were placed into 40 milliliters glass vials containing a sufficient amount of hydrochloric acid to reach a sample pH of two or less. After collection, the samples were immediately place in a designated sample cooler and preserved at four degrees centigrade.

All samples were shipped with the NJDEPE required trip blank to WESTON Analytical in Lionville, Pennsylvania via overnight courier following chain of custody procedures. Groundwater samples collected at the site were analyzed at the Gulf Coast Analytical Laboratory in University Park, Illinois, for BTEX analysis.



1.3 PRODUCT RECOVERY

Operational difficulties were encountered with the Immiscible Product Recovery System (IPRS) early in the quarter. Specifically, during an inspection of the system in February, the bottom half of the product recovery tank was observed to be frozen indicating that groundwater had infiltrated the system. The specific cause of the problem is believed to be a tear in the tygon tubing connecting the floating skimmer head to the base of the skimmer in MW-6 which allowed water to be recovered into the system. Subsequent measures taken to ensure that groundwater recovery is eliminated included the replacement of the styrofoam flotation-collars and the replacement of all gaskets and tygon tubing associated with each skimmer.

Product recovery system expansion activities commenced during the week of 28 March 1994. These activities included: installation of two (2) two-inch skimmer units in MW-3 and WP-B4; installation of four-inch skimmer units in the three caisson wells (CW-1, CW-2, CW-3); and modification of the diaphragm pumps to allow product recovery from two wells by each pump instead of one. All previous product recovery points are still in operation with the exception of MW-6. Upon completion of the expansion effort, all skimmer units were thoroughly inspected to ensure that no groundwater was being recovered. No evidence of groundwater recovery was observed while testing the upgraded system.

2.0 RESULTS

2.1 GROUNDWATER ELEVATION DATA

Groundwater level elevation data for the 31 March 1994 and 22 April 1994 measurement events are presented in Table 1 in Appendix A and equipotential maps for the shallow, intermediate and deep aquifer zones are presented in Appendix B. Water table depression caused by the presence of the Light Non-Aqueous Phase Liquid (LNAPL) was corrected using the method presented in previous quarterly reports (WESTON, April 1992).

2.2 BTEX ANALYTICAL RESULTS

Analytical results for groundwater samples collected from MW-4, MW-14S, MW-15S, MW-22, and MW-25 are presented in Appendix C. The data is summarized in Tables 2-1 and 3-1. Ethylbenzene and xylene were present in MW-22 at concentrations of .150 and .590 ppm respectively. No BTEX parameters were present above detection limits in well MW-4, MW-14S, MW-15S, MW-22, and MW-25.



TABLE 2-1

SUMMARY OF BTEX ANALYTICAL RESULTS
FIRST QUARTER 1994
L.E. CARPENTER SITE, WHARTON, NEW JERSEY

Parameter	Concentration (ppm)				
	MW-4	MW-14S	MW-15S	MW-22	MW-25
Benzene	ND	ND	ND	ND	ND
Toluene	ND	ND	ND	ND	ND
Ethylbenzene	ND	ND	ND	.150	ND
Xylene	ND	ND	ND	.590	ND
Total BTEX	ND	ND	ND	.740	ND



3.0 DISCUSSION

3.1 GROUNDWATER ELEVATION MEASUREMENT

Groundwater levels and product thickness measurements were collected from each monitoring well, well point, and stream gauge on 31 March 1994. Additional groundwater levels were collected from the deep wells on 22 April 1994. Appendix A presents the water level and product thickness data. Equipotential maps of the shallow, intermediate, and deep aquifer zones are presented in Appendix B on Figures 1, 2, and 3; respectively.

Corrected water level elevations were compared to findings from the 27 December 1993 measurement event (fourth quarter 1993). At all monitoring points, except for MW-12I, where a decrease of 0.40 feet was measured, there is an increase in corrected water level elevations reflective of seasonal precipitation and the spring thaw. The range of these fluctuations is calculated to be between 0.08 feet at DC-P5 and 4.57 feet at MW-11S. Hydrographs of selected monitoring points are included in Appendix D.

Equipotential maps of the shallow and intermediate aquifer zones were constructed based on the results of the 31 March 1994 measurement event. The equipotential map of the deep aquifer zone was constructed based on the results of the 22 April 1994 measurement event. The equipotential maps generated from the first quarter 1994 data were compared to equipotential maps constructed for the fourth quarter 1993. Generally, groundwater flow directions found in this reporting period were similar within each aquifer zone. However, a slight groundwater mound was identified in the vicinity of MW-11S, WP-B1, and WP-B3. This mounding is probably the result of the standing water in the infiltration gallery as well as the melt water from snow accumulations.

3.2 PRODUCT DELINEATION ACTIVITIES

Product delineation was performed by measuring for LNAPL at each monitoring point. At each location where product was encountered, its thickness was measured with an oil/watch interface probe to one hundredth (0.01) of a foot. Appendix A provides the product thickness measurements. Figure 4 in Appendix B provides an isopach map presenting product thickness.

At the twenty-five (25) monitoring points where product was detected, its thickness ranged from a sheen at nine (9) monitoring points to 5.53 feet at WP-A4. There is no site wide trend regarding product thickness fluctuations.

An increase in product thickness was noted in monitoring points MW-1 (1.18 feet), MW-10 (0.54 feet), WP-A1 (1.82 feet), WP-A4 (2.25 feet), WP-B3 (0.01 feet), and WP-B4 (0.01 feet). The most significant increases were noted in the vicinity of MW-1.



A decrease in product thickness was noted in fourteen (14) monitoring points. Monitoring points MW-3, MW-6, MW-11S, MW-12S, RW-2, WP-A2, WP-A6, WP-A7, WP-A8, WP-A9, WP-B1, WP-B5, WP-B7, and WP-B9 displayed decreases in product thickness of 0.11 feet, 0.59 feet, 2.53 feet, 0.02 feet, 0.75 feet, 0.58 feet, 2.53 feet, 0.37 feet, 3.60 feet, 0.04 feet, 0.12 feet, 0.63 feet, 0.15 feet, and 0.86 feet; respectively. The largest decrease was noted in WP-A8 with a decrease of 3.60 feet.

3.3 SUMMARY

The analytical results for the first quarter 1994 are presented in Table 2-1. A summary of analytical data collected since the second quarter of 1993 are presented in Table 3-1. In general, total BTEX concentrations were much lower in comparison with concentrations found in the fourth quarter of 1993. Specifically, the concentration of total BTEX was lower in MW-22 (.740 ppm) as compared to total BTEX results from the fourth quarter (1.49 ppm). Benzene, toluene, ethylbenzene, and xylene were not detected in samples MW-4, MW-14S, MW-15S, and MW-25. Fourth quarter 1993 BTEX results indicate total BTEX concentrations of .447 ppm in MW-14S and .260 ppm in MW-25. MW-15S, last sampled during the third quarter of 1993 revealed a total BTEX concentration of .0068 ppm. BTEX was not detected in MW-4 during the fourth quarter of 1993.



TABLE 3-1

COMPARISON OF MONITORING WELL DATA SINCE SECOND QUARTER 1993
L.E. CARPENTER

All results in mg/l (ppm)

	2ndQ93	3rdQ93	4thQ94	1stQ94
MW-4				
Benzene	ND	ND	ND	ND
Toluene	.002	.002	ND	ND
Ethylbenzene	ND	.0054	BRL	ND
Xylene	.0024	.0061	BRL	ND
Total BTEX	.0044	.0135	ND/BRL	ND
MW-14S				
Benzene	ND	ND	BRL	ND
Toluene	ND	ND	BRL	ND
Ethylbenzene	ND	ND	.086	ND
Xylene	.014	ND	.360	ND
Total BTEX	.014	ND	.447	ND
MW-22				
Benzene	ND	ND	BRL	ND
Toluene	.340	.0012	BRL	ND
Ethylbenzene	ND	.3000	.290	.150
Xylene	1.0	1.200	1.20	.590
Total BTEX	1.34	1.50	1.49	.740
MW-25				
Benzene	ND	ND	BRL	ND
Toluene	ND	ND	ND	ND
Ethylbenzene	ND	ND	ND	ND
Xylene	ND	ND	.260	ND
Total BTEX	ND	ND	.260	ND
MW-15S				
Benzene	na	ND	na	ND
Toluene	na	ND	na	ND
Ethylbenzene	na	.0017	na	ND
Xylene	na	.0051	na	ND
Total BTEX	na	.0068	na	ND

Notes:

ND - Not detected.
 BRL - Below Reporting Limits.

APPENDIX A

WATER LEVEL AND PRODUCT THICKNESS DATA

TABLE 1
WATER LEVEL/PRODUCT THICKNESS MEASUREMENT DATA
FIRST QUARTER 1994
L.E. CARPENTER SITE
WHARTON, NEW JERSEY

MONITORING POINT DESIGNATION	MEASURING POINT ELEVATION (FT. MSL)	DEPTH TO PRODUCT (FT)	APPARENT PRODUCT THICKNESS (FT)	STATIC DEPTH TO WATER (FT)	CORRECTED DEPTH TO WATER (FT)	CORRECTED WATER LEVEL ELEVATION (FT MSL)
MW-1	639.18	9.76	3.04	12.80	10.19	628.99
MW-2	633.57	NONE	NONE	6.52	6.52	627.05
MW-3	632.56	5.18	0.74	5.92	5.28	627.28
MW-4	632.50	NONE	NONE	4.45	4.45	628.05
MW-5	632.42	NONE	NONE	4.18	4.18	628.24
MW-6	632.00	4.96	0.02	4.98	4.96	627.04
MW-7	630.68	NONE	NONE	3.81	3.81	626.87
MW-8	630.56	NONE	NONE	3.74	3.74	626.82
MW-9	631.69	NONE	NONE	3.75	3.75	627.94
MW-10	633.65	5.48	0.73	6.21	5.58	628.07
MW-11S	632.96	3.21	2.75	5.96	3.60	629.37
MW-11I	632.82	NONE	NONE	4.80	4.80	628.02
MW-11D	632.42	NONE	NONE	0.83	0.83	631.59
MW-11D*	632.42	NONE	NONE	1.90	1.90	630.52
MW-12S	633.18	NONE	SHEEN	5.02	5.02	628.16
MW-12I	633.06	NONE	NONE	4.80	4.80	628.26
MW-13S	631.23	NONE	NONE	3.91	3.91	627.32
MW-13I	630.66	NONE	NONE	3.24	3.24	627.42
MW-14S	628.41	NONE	NONE	2.40	2.40	626.01
MW-14I	628.23	NONE	NONE	1.00	1.00	627.23
MW-14D	628.53	NONE	NONE	ARTESIAN	ARTESIAN	ARTESIAN
MW-14D*	628.53	NONE	NONE	ARTESIAN	ARTESIAN	ARTESIAN
MW-15S	636.77	NONE	NONE	8.32	8.32	628.45
MW-15I	636.66	NONE	NONE	8.23	8.23	628.43
MW-16S	634.47	NONE	NONE	5.38	5.38	629.09
MW-16I	634.96	NONE	NONE	5.67	5.67	629.29
MW-17S	634.79	NONE	NONE	5.26	5.26	629.53
MW-17D	634.86	NONE	NONE	5.69	5.69	629.17
MW-17D*	634.86	NONE	NONE	6.82	6.82	628.04
MW-18S	631.26	NONE	NONE	4.48	4.48	626.78
MW-18I	631.04	NONE	NONE	3.56	3.56	627.48
MW-18D	630.77	NONE	NONE	ARTESIAN	ARTESIAN	ARTESIAN
MW-18D*	630.77	NONE	NONE	0.92	0.92	629.85
MW-19	638.88	NONE	NONE	9.53	9.53	629.35
MW-20	636.77	NONE	NONE	7.62	7.62	629.15
MW-21	628.80	NONE	NONE	2.10	2.10	626.70
MW-22	628.74	NONE	NONE	1.14	1.14	627.60
MW-23	630.64	NONE	NONE	2.30	2.30	628.34
MW-24	629.03	NONE	NONE	1.96	1.96	627.07
MW-25	627.33	NONE	NONE	0.50	0.50	626.83
RW-1	637.38	NONE	SHEEN	8.56	8.56	628.82
RW-2	631.68	NONE	SHEEN	4.58	4.58	627.10
RW-3	631.99	NONE	SHEEN	4.98	4.98	627.01
CW-1	NOT SURVEYED	NONE	SHEEN	6.50	6.50	NOT SURVEYED
CW-2	NOT SURVEYED	NONE	SHEEN	8.08	8.08	NOT SURVEYED

TABLE 1
WATER LEVEL/PRODUCT THICKNESS MEASUREMENT DATA
FIRST QUARTER 1994
L.E. CARPENTER SITE
WHARTON, NEW JERSEY

MONITORING POINT DESIGNATION	MEASURING POINT ELEVATION (FT. MSL)	DEPTH TO PRODUCT (FT)	APPARENT PRODUCT THICKNESS (FT)	STATIC DEPTH TO WATER (FT)	CORRECTED DEPTH TO WATER (FT)	CORRECTED WATER LEVEL ELEVATION (FT MSL)
CW-3	NOT SURVEYED	NONE	SHEEN	5.92	5.92	NOT SURVEYED
GEI-1I	630.78	NONE	NONE	3.20	3.20	627.58
GEI-2S	637.67	NONE	NONE	8.41	8.41	629.26
GEI-2I	638.20	NONE	NONE	7.98	7.98	630.22
GEI-3I	639.85	NONE	NONE	9.68	9.68	630.17
WP-A1	635.81	6.80	3.30	10.10	7.26	628.55
WP-A2	639.20	10.42	0.02	10.44	10.42	628.78
WP-A3	635.56	NONE	NONE	5.97	5.97	629.59
WP-A4	635.10	6.02	5.53	11.55	6.79	628.31
WP-A5	637.85	NONE	NONE	8.71	8.71	629.14
WP-A6	637.28	8.54	0.65	9.19	8.63	628.65
WP-A7	634.88	NONE	SHEEN	6.41	6.41	628.47
WP-A8	637.56	9.28	0.31	9.59	9.32	628.24
WP-A9	639.45	NONE	SHEEN	10.39	10.39	629.06
WP-B1	633.65	5.10	0.10	5.20	5.11	628.54
WP-B2	632.25	NONE	NONE	4.28	4.28	627.97
WP-B3	633.33	4.99	0.21	5.20	5.02	628.31
WP-B4	631.92	3.85	4.19	8.04	4.44	627.48
WP-B5	632.11	4.51	0.19	4.70	4.54	627.57
WP-B6	631.86	NONE	NONE	4.35	4.35	627.51
WP-B7	629.49	2.62	0.36	2.98	2.67	626.82
WP-B8	629.29	NONE	NONE	2.10	2.10	627.19
WP-B9	632.37	4.90	0.20	5.10	4.93	627.44
WP-B10	632.63	NONE	NONE	4.93	4.93	627.70
WP-C1	634.44	NONE	NONE	6.26	6.26	628.18
WP-C2	634.46	NONE	NONE	4.44	4.44	630.02
WP-C3	632.64	NONE	NONE	6.46	6.46	626.18
WP-C4	634.59	NONE	NONE	6.20	6.20	628.39
DC-P0	625.73	NONE	NONE	2.16	2.16	623.57
DC-P1	625.26	NONE	NONE	1.57	1.57	623.69
DC-P2	626.79	NONE	NONE	3.00	3.00	623.79
DC-P3	625.22	NONE	NONE	1.68	1.68	623.54
DC-P4	625.10	NONE	NONE	1.64	1.64	623.46
DC-P5	625.16	NONE	NONE	1.72	1.72	623.44
RP-01	629.65	NONE	NONE	1.62	1.62	628.03
RP-02	627.75	NONE	NONE	1.18	1.18	626.57
RP-03	627.11	NONE	NONE	1.55	1.55	625.56

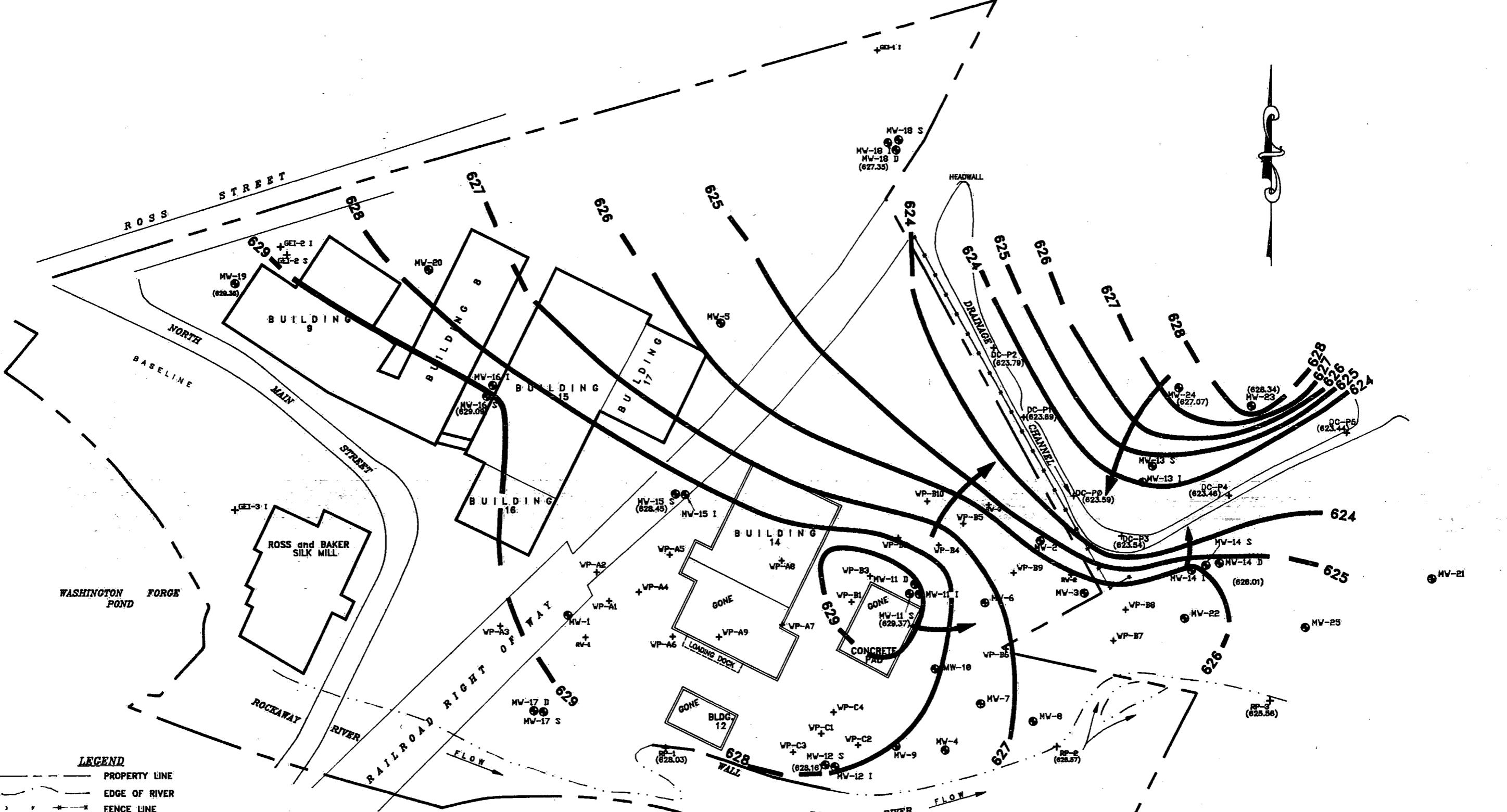
NOTE:

ASSUMES A SPECIFIC GRAVITY OF 0.86.

MONITORING POINT DESIGNATIONS WHICH ARE HIGHLIGHTED INDICATE THAT THE MEASUREMENT WAS COLLECTED ON 22 APRIL 1994.
ALL OTHER MONITORING POINTS WERE MEASURED ON 31 MARCH 1994.

APPENDIX B

EQUIPOTENTIAL AND PRODUCT THICKNESS ISOPACH MAPS

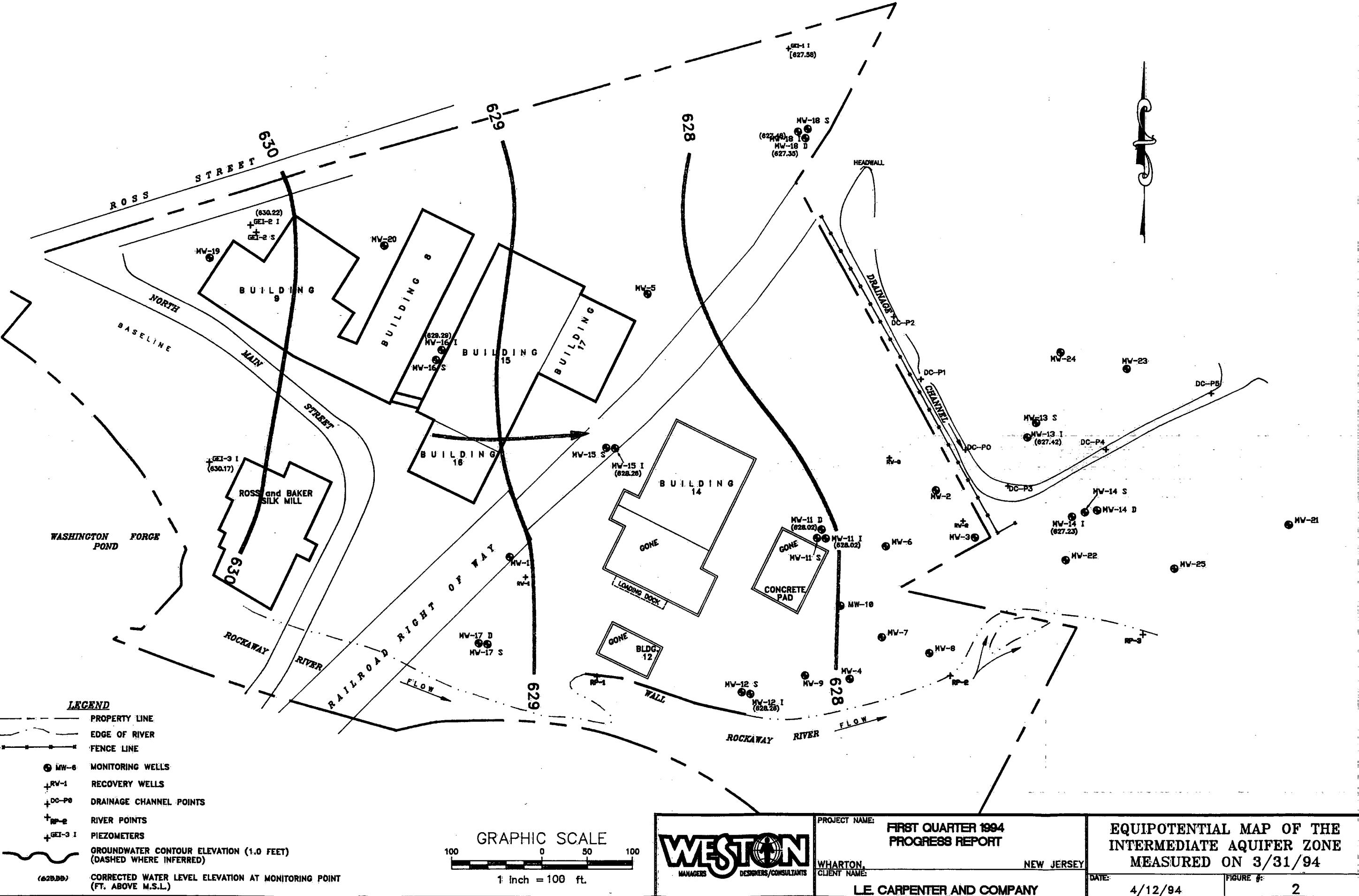


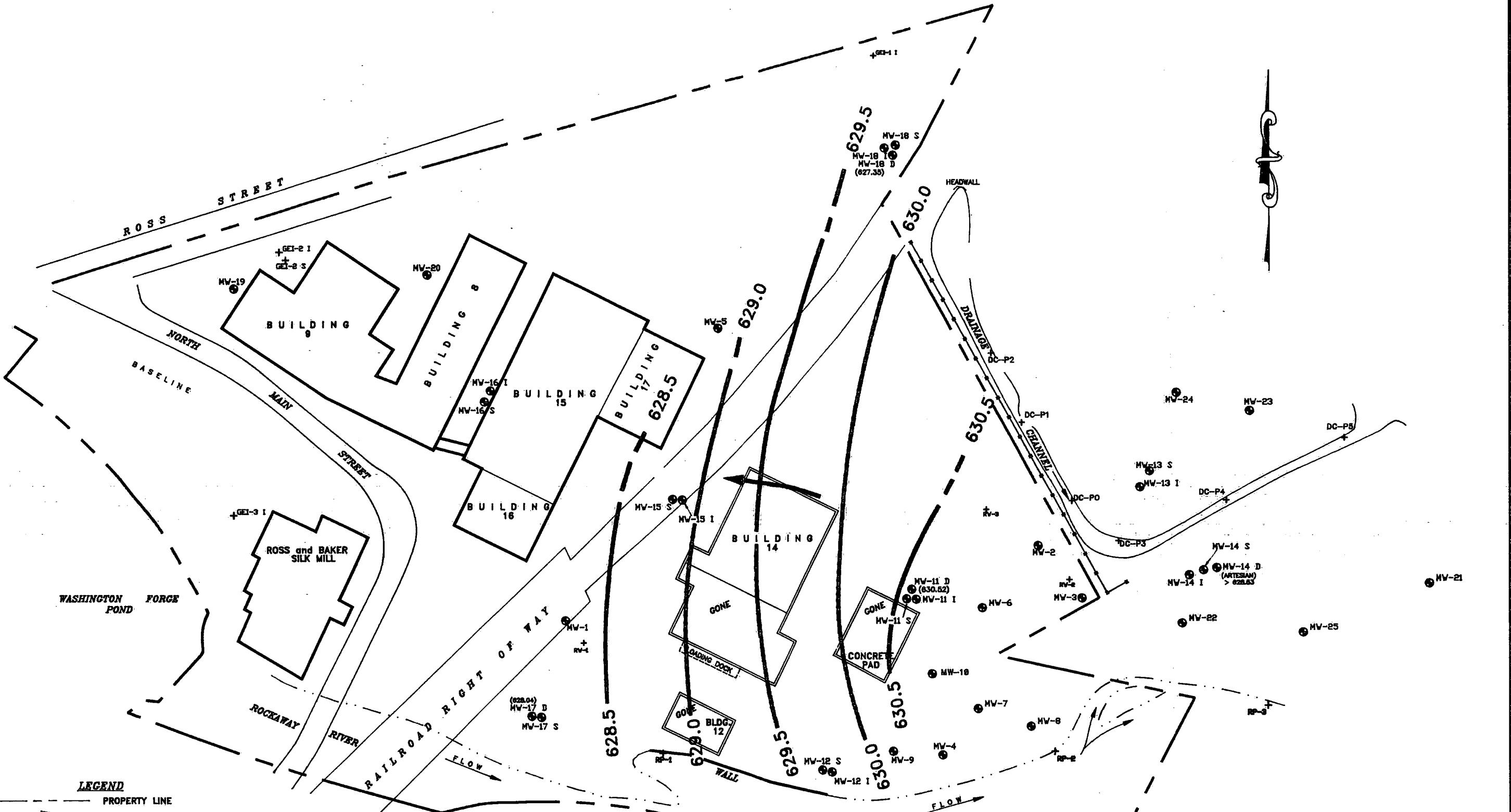
GRAPHIC SCALE
100 0 50 100
1 Inch = 100 ft.



PROJECT NAME:
**FIRST QUARTER 1994
PROGRESS REPORT**
WHARTON,
CLIENT NAME:
NEW JERSEY
LE CARPENTER AND COMPANY

DATE: 4/12/94 FIGURE #: 1
EQUIPOTENTIAL MAP OF THE
SHALLOW AQUIFER ZONE
MEASURED ON 3/31/94





LEGEND

- PROPERTY LINE
- EDGE OF RIVER
- FENCE LINE
- (●) MW-8 MONITORING WELLS
- (+RV-1) RECOVERY WELLS
- (+DC-P8) DRAINAGE CHANNEL POINTS
- (+RP-8) RIVER POINTS
- (+GEI-3 I) PIEZOMETERS
- GROUNDWATER CONTOUR ELEVATION (1.0 FEET)
(DASHED WHERE INFERRED)
- (629.35) CORRECTED WATER LEVEL ELEVATION AT MONITORING POINT
(FT. ABOVE M.S.L.)

GRAPHIC SCALE
100 0 50 100
1 Inch = 100 ft.



PROJECT NAME:
FIRST QUARTER 1994
PROGRESS REPORT

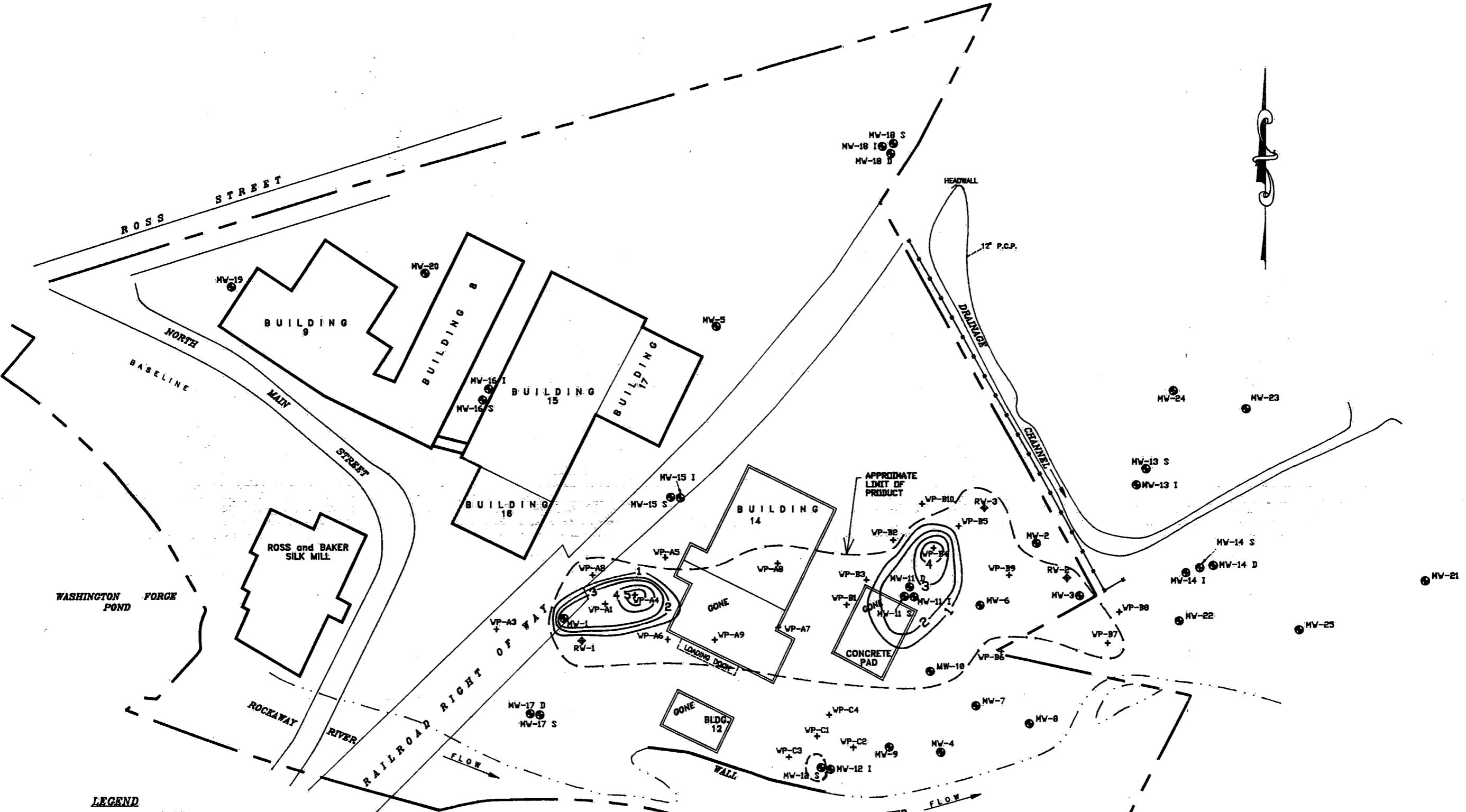
WHARTON, NEW JERSEY

L.E. CARPENTER AND COMPANY

EQUIPOTENTIAL MAP OF THE
DEEP AQUIFER ZONE
MEASURED ON 4/22/94

DATE: 5/3/94

FIGURE #: 3



LEGEND

- — — PROPERTY LINE
- — — EDGE OF RIVER
- — — FENCE LINE
- + WP-B10 WELL POINTS
- (●) MW-6 MONITORING WELLS
- (◆) RW-1 RECOVERY WELLS
- — — PRODUCT THICKNESS [CONTOUR INTERVAL = 1.0 FEET]
- — — APPROXIMATE LIMIT OF PRODUCT

GRAPHIC SCALE
100 0 50 100
1 inch = 100 ft.



PROJECT NAME:
WHARTON,
CLIENT NAME:

FIRST QUARTER 1994
PROGRESS REPORT
NEW JERSEY
LE CARPENTER AND COMPANY

ISOPACH MAP OF
PRODUCT THICKNESS
MEASURED ON 3/31/94
DATE: 4/12/94 FIGURE #: 4

APPENDIX C
BTEX ANALYTICAL RESULTS



WESTON-GULF COAST, INC.
2417 BOND STREET
UNIVERSITY PARK, ILLINOIS 60466-3182
708-534-5200 • 219-885-7077 • 815-723-7533
FAX: 708-534-5211

27 April 1994

Ms. Tammy Edgington
Roy F. Weston, Inc.
208 Welsh Pool Road
Lionville, PA 19341-1313

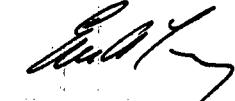
RE: Revised Report
L.E. CARPENTER
RFW# 9403L806

Dear Ms. Edgington:

Enclosed is the revised Analytical Report for the Project and RFW Batch Number listed above. The reporting limits have been changed as requested on the off load form. If you have any questions, please contact me at 708-534-5200.

Very truly yours,

WESTON-GULF COAST, INC.



Eric A. Lang
Project Manager

sj

Enclosures

Approved By:



for Michael J. Healy
Vice President/Laboratory Manager



PURGEABLE AROMATICS BY GC, METHOD 602
L.E.CARPENTER
RFW# 9403L806

Laboratory Chronicle	01
Chain-of-Custody	02
Data Summary	05
I. Case Narrative	07
II. Quality Control Summary (spreadsheet)	10
A. Surrogate % recovery (Form 2)	
B. MS/MSD summary (Form 3)	
C. Method blank (Form 4)	
III. Sample Data Package	15
A. Results summary (Form 1)	
B. Chromatograms/quant reports - primary column	
IV. Standards Data Package	37
A. Chromatograms/quant reports	
V. Raw Quality Control Data Package	62
A. Blank data	
1. Results summary (Form 1)	
2. Chromatograms/quant reports - primary column	
B. Matrix spike data	
1. Results summary	
2. Chromatograms - primary column	
C. Run Log Summary	

Linda S Mackley

Organics Section Manager

4-27-94

Date

Jesse A. Preston

QA/QC Department

4/27/94

Date



Roy F. Weston, Inc. - Gulf Coast Laboratories
602 ANALYTICAL DATA PACKAGE FOR
L.E. Carpenter

RFW LOT # :9403L806

CLIENT ID	RFW #	MTX	PREP #	COLLECTN DATE	REC	EXT/PREP	ANALYSIS	
MW-4	001	W	94GVD088	03/10/94	03/12/94	N/A	03/22/94	
MW-14S	002	W	94GVD088	03/10/94	03/12/94	N/A	03/23/94	
MW-15S	003	W	94GVD088	03/10/94	03/12/94	N/A	03/23/94	
MW-15S	003 MS	W	94GVD088	03/10/94	03/12/94	N/A	03/23/94	
MW-15S	003 MSD	W	94GVD088	03/10/94	03/12/94	N/A	03/23/94	
MW-22	004	W	94GVD088	03/10/94	03/12/94	N/A	03/23/94	
MW-22	004	01	W	94GVD088	03/10/94	03/12/94	N/A	03/23/94
MW-25	005	W	94GVD088	03/10/94	03/12/94	N/A	03/23/94	
Trip Blank	006	W	94GVD088	03/10/94	03/12/94	N/A	03/23/94	
LAB QC:								
BLK	MB1	W	94GVD088	N/A	N/A	N/A	03/23/94	
BLK	MB1 BS	W	94GVD088	N/A	N/A	N/A	03/23/94	
BLK	MB1 BSD	W	94GVD088	N/A	N/A	N/A	03/23/94	

CHAIN OF CUSTODY

940BL80e

Custody Transfer Record/Lab Work Request

Client	L.E. CARPENTER		
Est. Final Proj. Sampling Date	3/18/94		
Work Order #	04140-018		
Project Contact/Phone #	C. Brown - CSC		
AD Project Manager	M. O'Neill - CSC		
QC SD	Del	TAT	30 MPH
Date Rec'd	3/11/94	Date Due	4-10-94
Account #	LECARP-NLP		

Refrigerator #																			
#	Type	Container	Volume																
Preservatives				ORGANIC				INORG											
				VOC	BPA	Pest/PCB	Herp					Metal	CN						
ANALYSES REQUESTED →																			

MATRIX CODES:	Lab ID	Client ID/Description	Matrix QC Chosen (✓)	Time Collected	WESTON Analytics Use Only														
					MS	MSD	W	3/11/94	13:43	X	0608X								
S - Soil	001	MW-4																	
SE - Sediment	002	MW-14S																	
SD - Solid	003	MW-15S	X	X															
SL - Sludge	004	MW-33																	
W - Water	005	MW-35																	
O - Oil	006	Trop Blk.																	
A - Air																			
DS - Drum Solids																			
DL - Drum Liquids																			
L - EP/TCLP Leachate																			
WI - Wipe																			
X - Other																			
F - Fish																			

FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS

Special Instructions:

For BTEX USE Louisville Reg. limits Method 602 no solvent Benzene, Toluene, Ethylbenzene all at 1.0 ppb Xylene (total) 5 = 2.6 ppb 6.

DATE/REVISIONS:

3-11-94 1. Samples submitted to Gulf Coast

Relinquished by	Received by	Date	Time
<i>CAF</i>			
FedEx	M. O'Neill	3/11/94	14:40

Relinquished by	Received by	Date	Time

Discrepancies Between Samples Labels and COC Record? Y or N
NOTES: *MM*

WESTON Analytics Use Only

Samples were:

1) Shipped or Hand Delivered

Airbill # *141521 P310*

2) Ambient or Chilled

3) Received in Good Condition Y or N

4) Labels Indicate Properly Preserved Y or N

5) Received Within Holding Times Y or N

COC Tape was:

1) Present on Outer Package Y or N

2) Unbroken on Outer Package Y or N

3) Present on Sample Y or N

4) Unbroken on Sample Y or N

COC Record Present Upon Sample Rec'd Y or N

DATA SUMMARY

Roy F. Weston, Inc. - Gulf Coast Laboratories

PURGEABLE AROMATICS BY GC

RFW Batch Number: 9403L806

Client: L.E. Carpenter

Report Date: 04/27/94 10:49

6

Work Order: 06720-013-001-0

Page: 1

	Cust ID:	MW-4	MW-14S	MW-15S	MW-15S	MW-15S	MW-22
Sample Information	RFW#:	001	002	003	003 MS	003 MSD	004
	Matrix:	WATER	WATER	WATER	WATER	WATER	WATER
	D.F.:	1.0	1.0	1.0	1.0	1.0	1.0
	Units:	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
a,a,a-Trifluorotoluene		85 %	83 %	88 %	84 %	82 %	88 %
Benzene		1.0 U	1.0 U	1.0 U	118 %	120 %	1.0 U
Toluene		1.0 U	1.0 U	1.0 U	119 %	130 %	1.0 U
Ethylbenzene		1.0 U	1.0 U	1.0 U	119 %	122 %	E
Xylene (Total)		2.0 U	2.0 U	2.0 U	118 %	139 %	E

	Cust ID:	MW-22	MW-25	Trip Blank	BLK	BLK BS	BLK BSD
Sample Information	RFW#:	004 DL	005	006	94GVD088-MB1	94GVD088-MB1	94GVD088-MB1
	Matrix:	WATER	WATER	WATER	WATER	WATER	WATER
	D.F.:	25.0	1.0	1.0	1.0	1.0	1.0
	Units:	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
a,a,a-Trifluorotoluene		83 %	82 %	79 %	81 %	82 %	82 %
Benzene		NA	1.0 U	1.0 U	1.0 U	115 %	118 %
Toluene		NA	1.0 U	1.0 U	1.0 U	121 %	130 %
Ethylbenzene		150	1.0 U	1.0 U	1.0 U	120 %	119 %
Xylene (Total)		590	2.0 U	2.0 U	2.0 U	125 %	120 %

U= Analyzed, not detected. J= Present below detection limit. B= Present in blank. NR= Not requested. NS= Not spiked.
 %= Percent recovery. D= Diluted out. I= Interference. NA= Not Applicable. *= Outside of EPA CLP QC

I. CASE NARRATIVE

CASE NARRATIVE
Organics

Weston-Gulf Coast
L. E. Carpenter
RFW # 9403L806-001/006
Purgeable Aromatics

1. These samples were analyzed for Benzene, Toluene, Ethylbenzene and Xylene based on 40CFR method 602. A Tracor 565 gas chromatograph equipped with a photoionization detector and a LSC-2 Liquid Sample Concentrator was used for the analysis.
2. The method blank was below the reporting limits for all compounds.
3. All blank spike and blank spike duplicate recoveries were within control limits.
4. A matrix spike and matrix spike duplicate were performed on sample 9403L806-003 (MW-15S). All recoveries were within control limits.
5. All surrogate recoveries were within control limits.
6. All required hold times were met.
7. All initial and continuing standards associated with these samples were within control limits with the following exceptions:

8020 standard run 03/23/94 at 01:28 had Benzene at 21.09% difference, Toluene at 23.61% difference, Ethylbenzene at 19.84% difference, m,p-Xylene at 18.91% difference and Xylene (total) at 21.81% difference.

8020 standard, run as a re-analysis of the previous standard, at 03/23/94 at 02:25 had Benzene at 18.32% difference, Ethylbenzene at 16.99% difference, m,p-Xylene at 17.34% difference and Xylene (total) at 17.78% difference. No target compounds were present in the samples associated with these standards which were 9403L806-001 (MW-4) and 9403L806-002 (MW-14S).

8020 standard run 03/23/94 at 21:41 had Benzene at 21.00% difference, Toluene at 21.41% difference, Ethylbenzene at 18.35% difference, m,p-Xylene at 16.47% difference and Xylene (total) at 20.24% difference. This standard was re-run and all compounds were within control limits.

Linda S. Mackley
Linda S. Mackley
Organics Section Manager

4-27-94
Date



ORGANIC GLOSSARY OF DATA QUALIFIERS AND ABBREVIATIONS

Organic Data Qualifiers

- A TIC is a suspected aldol-condensation product
- B Compound was found in the blank and the sample
- C Pesticide identification was confirmed by GC/MS
- D Surrogate or matrix spike recoveries were not obtained because the extract was diluted for analysis
- E Concentration exceeds the instrument calibration range and was subsequently diluted
- I Appears on the "results spreadsheet" and "quant reports" to indicate an interference, or it appears on pesticide Form 8 to indicate an instrument blank without a surrogate
- J Result is an estimated value below the reporting limit or a tentatively identified compound (TIC)
- NQ Result was qualitatively confirmed, but not quantified
- P The percent difference between the results from two GC columns is greater than 25%, and the lower of the two values is reported
- T Compound was found in the TCLP extraction blank and the sample
- U Compound was not detected at or above the reporting limit
- X Other specific flags may be required to properly qualify the result
- * QC result was outside the laboratory control limits

Abbreviations

- BS Blank Spike: spike analysis was conducted on reagent grade water or a matrix free from the analyte(s) of interest.
- BSD Blank Spike Duplicate
- BRL Below Reporting Limit
- CD Calculation Factor used by the laboratory's Information Management System (LIMS)
- DF Dilution Factor
- DL Appears in the sample ID to indicate a secondary dilution
- LCS or (LC) denotes Laboratory Control Standard
- MB Method Blank or (PB) preparation blank
- MS Matrix Spike
- MSD Matrix Spike Duplicate
- NA Not Applicable
- NR Not Required
- NS Not Spiked
- RE Appears in the sample ID to indicate a Re-analysis
- REP Replicate analysis
- REPREP Sample was reprepared and then reanalyzed
- RFW# Equivalent to the laboratory sample identification (LAB ID)
- RPD Relative Percent Difference of duplicate analyses
- RRF Relative Response Factor
- RT Retention Time
- RT Retention Time Window

NOTES:

One or a combination of these data qualifiers and abbreviations may appear in the analytical report.
Soil, sediment and sludge results are reported on a dry weight basis except when analyzed for landfill disposal or incineration parameters. All other results on a solid matrix are reported on an "as received" basis unless noted differently.
Reporting limits are adjusted for preparation sample size, sample dilutions, and sample moisture content if analyzed on a dry weight basis.

- II. Quality Control Summary (spreadsheet)**
- A. Surrogate % recovery (Form 2)**
 - B. MS/MSD summary (Form 3)**
 - C. Method blank (Form 4)**

2
WATER VOLATILE SURROGATE RECOVERYLab Name: Roy F. Weston, Inc.Contract: 06720-013-001-0Case No.: L.E. CarpenterRFW Lot No.: 9403L806

CLIENT SAMPLE NO.	S1 ()#	S2 ()#	S3 ()#	OTHER	TOT OUT
01 MW-4	85				0
02 MW-14S	83				0
03 MW-15S	88				0
04 MW-15SMS	84				0
05 MW-15SMSD	82				0
06 MW-22	88				0
07 MW-22DL	83				0
08 MW-25	82				0
09 Trip Blank	79				0
10 BLKGVD088-MB1	81				0
11 BLKGVD088-MB1 BS	82				0
12 BLKGVD088-MB1 BSD	82				0

S1 () = a,a,a-Trifluorotoluene

QC LIMITS
(55-135)

Column to be used to flag recovery values

* Values outside of QC limits

D Surrogates diluted out

3A

WATER VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: Roy F. Weston, Inc.Contract: 06720-013-001-0Case No.: L.E. CarpenterRFW Lot No.: 9403L806-003MATRIX Spike - Sample No.: MW-15S

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC LIMITS REC
Benzene	2.40	0	2.83	118	39-150
Toluene	2.40	0	2.86	119	46-148
Ethylbenzene	2.40	0	2.87	119	32-160
Xylene (Total)	2.40	0	2.83	118	20-180

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS RPD REC
Benzene	2.40	2.88	120	1	20 39-150
Toluene	2.40	3.12	130	8	20 46-148
Ethylbenzene	2.40	2.92	122	2	20 32-160
Xylene (Total)	2.40	3.34	139	16	20 20-180

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 4 outside limitsSpike Recovery: 0 out of 8 outside limits

COMMENTS:

3A
WATER VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: Roy F. Weston, Inc.

Contract: NONE

Case No.: L.E. Carpenter

RFW Lot No.: 9403L806

MATRIX Spike - Sample No.: BLKGVD088-MB1

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC LIMITS REC
Benzene	2.40	0	2.76	115	39-150
Toluene	2.40	0	2.91	121	46-148
Ethylbenzene	2.40	0	2.88	120	32-160
Xylene (Total)	2.40	0	3.00	125	20-180

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS RPD REC
Benzene	2.40	2.82	118	2	20 39-150
Toluene	2.40	3.12	130	7	20 46-148
Ethylbenzene	2.40	2.86	119	0	20 32-160
Xylene (Total)	2.40	2.89	121	3	20 20-180

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 4 outside limits

Spike Recovery: 0 out of 8 outside limits

COMMENTS:

4A
VOLATILE METHOD BLANK SUMMARY

Lab Name: Roy F. Weston, Inc.

Contract: 06720-013-001-0

Case No.: L.E. Carpenter

Lab File ID: RAW1:CN446886

Lab Sample ID: 94GVD088-MB1

Date Analyzed: 03/23/94

Time Analyzed: 0322

Matrix:(Soil/Water) WATER

Level:(low/med) LOW

Instrument ID: 11

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

CLIENT SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01 MW-4	9403L806-001	03/22/94	23:34
02 MW-14S	9403L806-002	03/23/94	00:31
03 MW-15S	9403L806-003	03/23/94	10:43
04 MW-15SMS	9403L806-003S	03/23/94	14:27
05 MW-15MSD	9403L806-003T	03/23/94	15:14
06 MW-22	9403L806-004	03/23/94	11:40
07 MW-22DL	9403L806-004	03/23/94	20:44
08 MW-25	9403L806-005	03/23/94	12:38
09 Trip Blank	9403L806-006	03/23/94	13:36
10 BLKGVD088-MB1 BS	94GVD088-MB1S	03/23/94	17:13
11 BLKGVD088-MB1 BSD	94GVD088-MB1T	03/23/94	18:11

COMMENTS:

III. Sample Data Package

A. Results summary (Form 1)

B. Chromatograms/quant reports - primary column

GC VOLATILES SHEET

MW-4

Lab Name: Roy F. Weston, Inc. Work Order: 06720-013-001-0Client: L.E. CarpenterMatrix: WATERLab Sample ID: 9403L806-001Sample wt/vol: 5.0 (g/mL) MLLab File ID: CM446848Level: (low/med) LOWDate Received: 03/12/94% Moisture: not dec. Date Analyzed: 03/22/94Column: (pack/cap) CAPDilution Factor: 1.0

CONCENTRATION UNITS:

(ug/L or ug/Kg) ug/L

CAS NO.	COMPOUND		
71-43-2-----	Benzene	1.0	U
108-88-3-----	Toluene	1.0	U
100-41-4-----	Ethylbenzene	1.0	U
1330-20-7-----	Xylene (Total)	2.0	U

12/88 Rev..

SAMPLE NO. :

03229411 . 10 DIL: 1. 0000 INSTRUMENT: 11

TEST NO. :

DATE TIME: 03/22/94 23:34:14

METHOD NO. :

11S / 11S

PAGE NO. :

01

9000

8550

8100

7650

7200

6750

6300

5850

5400

4950

4500

0.00 4.00 8.00 12.00 16.00 20.00 24.00 28.00 32.00 36.00 40.00

RETENTION TIME (MINUTES)

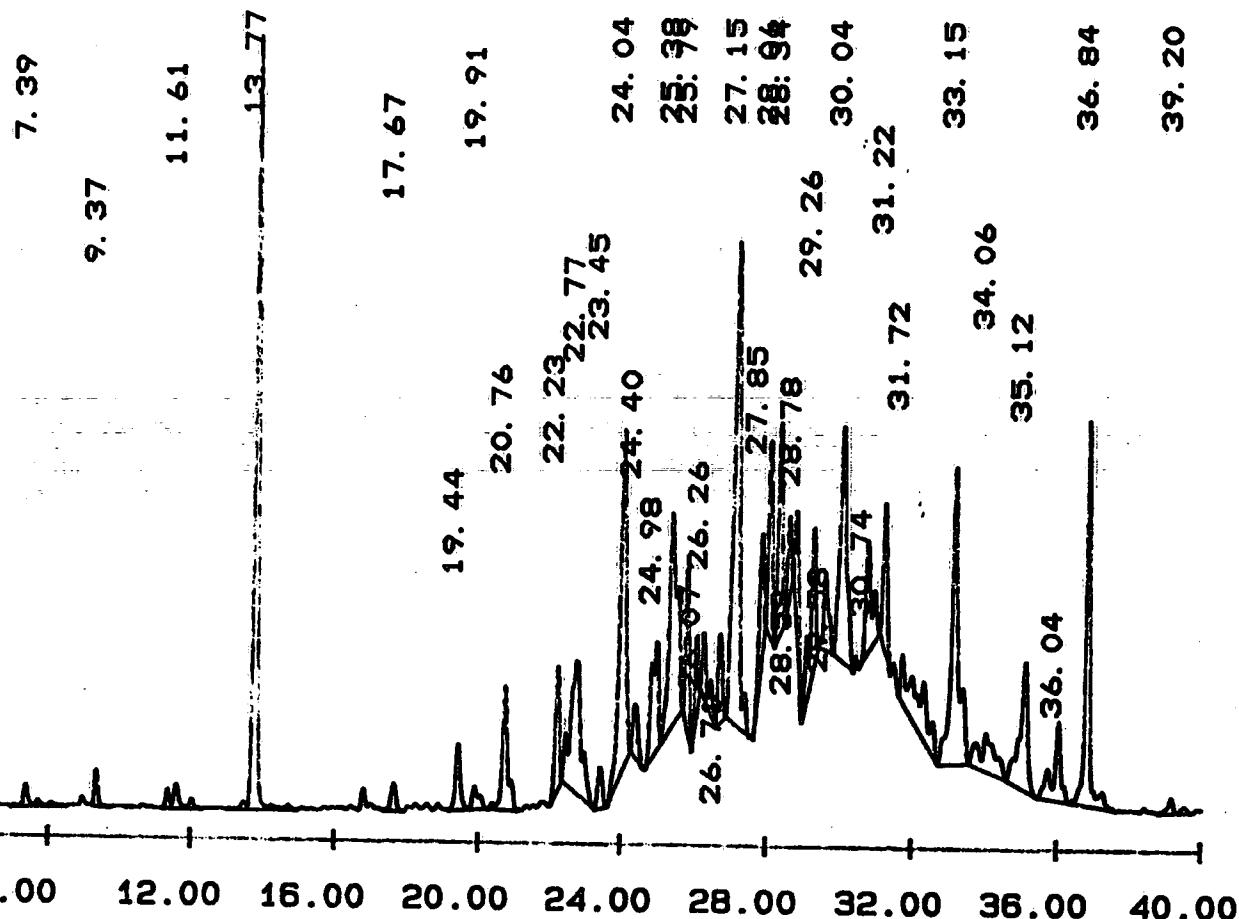
Y MAXIMUM: 9000.

START TIME: 0. 00

Y MINIMUM: 4500.

END TIME: 40. 00

9403L806-001



03/23/94 00:14:33

EXTERNAL STANDARD

SAMPLE: 03229411 .10

INST:11 VIAL:F0 SEQ NUMBER:010

TEST : 08020

DATE-TIME INJECTED : 03/22/94 23:34:14

COLLECTION TIME : 40.01

DATE-TIME PROCESSED : 03/23/94 00:14:33

METHOD: 11S / 11S REV #: 00120 ANALYST: MANZANO SAMP RATE: 0.78

CLIENT ID: MW-4

SAMPLE VOL:

CLIENT: L.E. Carpenter

COLUMN TYPE: RSL-160

LAB ID: 9403L806-001

RAW FILE: RAW1:CM446848

SAMPLE WT :

% MOISTURE :

DILUTION FACTOR : 1.0000

PK NO	PEAK AREA	PEAK HEIGHT	BL	RT MINUTES	GR #	COMPONENT NAME	HEIGHT CONC PPB
001	15442	1114	V	7.394			
002	11674	1768	V	9.370	1	MTBE	<u>1.320</u>
003	23174	1244	V	11.615	1	BENZENE	<u>0.256</u>
004	310800	40004	V	13.770	1	a,a,a-TRIFLUOROTOLUE	20.376
				16.884	1	TOLUENE	
005	13219	1408	V	17.667			
006	31774	3409	V	19.442			
007	15266	1131	V	19.915			
008	71868	6453	V	20.755			
				21.845	1	CHLOROBENZENE	
009	54866	6509	V	22.234	1	ETHYLBENZENE	<u>1.824</u>
010	148576	7047	V	22.766	1	M,P-XYLENE	<u>1.703</u>
011	19142	2133	V	23.445			
012	212793	18181	V	24.039			
013	28252	2874	V	24.405	1	XYLENE (TOTAL)	<u>0.832</u>
014	77762	5764	V	24.976			
015	181074	11461	V	25.379			
016	61034	8616	V	25.794			
017	29400	4015	V	26.070			
018	35334	3350	V	26.261			
019	38775	4686	V	26.711			
020	304298	25641	V	27.153			
021	50593	6574	V	27.848			
022	75253	10360	V	28.058			
023	89350	11116	V	28.337			
024	28904	4030	V	28.589			
025	44733	6408	V	28.780			
026	81866	7529	V	29.261			
027	39742	3907	V	29.581			
028	161503	12340	V	30.036			
029	67594	5715	V	30.740			
030	60846	7775	V	31.221	1	1,3-DICHLOROBENZENE	2.160
031	105202	2487	V	31.719	1	1,4-DICHLOROBENZENE	0.831
032	214407	15573	V	33.154	1	1,2-DICHLOROBENZENE	5.915
033	63998	2045	V	34.057			
034	101402	6770	V	35.119			
035	60237	4130	V	36.043			
036	178906	19709	V	36.842			
037	11507	765	V	39.200			



4/15/94

GC VOLATILES SHEET

CLIENT SAMPLE NO.

Lab Name: Roy F. Weston, Inc. Work Order: 06720-013-001-0MW-14SClient: L.E. CarpenterMatrix: WATERLab Sample ID: 9403L806-002Sample wt/vol: 5.0 (g/mL) MLLab File ID: CN446861Level: (low/med) LOWDate Received: 03/12/94% Moisture: not dec. Date Analyzed: 03/23/94Column: (pack/cap) CAPDilution Factor: 1.0

CONCENTRATION UNITS:

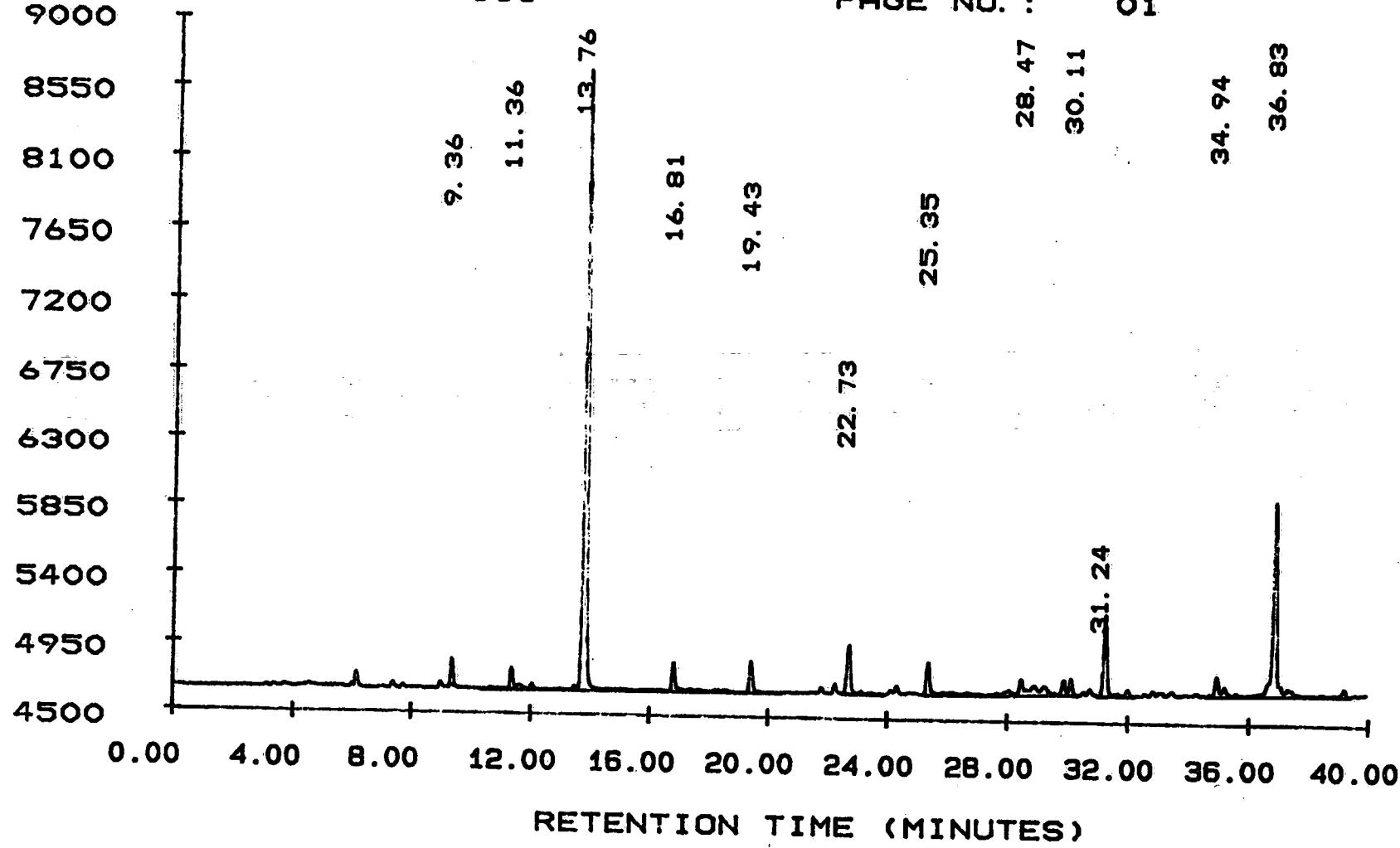
(ug/L or ug/Kg) ug/L

<u>71-43-2-----Benzene</u>	<u>1.0</u>	<u>U</u>
<u>108-88-3-----Toluene</u>	<u>1.0</u>	<u>U</u>
<u>100-41-4-----Ethylbenzene</u>	<u>1.0</u>	<u>U</u>
<u>1330-20-7-----Xylene (Total)</u>	<u>2.0</u>	<u>U</u>

12/88 Rev..

9403L806-002

SAMPLE NO. : 03229411 . 11 DIL: 1. 0000 INSTRUMENT: 11
TEST NO. :
METHOD NO. : 11S / 11S DATE TIME: 03/23/94 00:31:25
9000 PAGE NO. : 01



Y MAXIMUM: 9000.
Y MINIMUM: 4500.

START TIME: 0. 00
END TIME: 40. 00

EXTERNAL STANDARD

SAMPLE: 03229411 .11

TEST : 08020

COLLECTION TIME : 39.90

METHOD: 11S / 11S

REV #: 00120

CLIENT ID: MW-14S

CLIENT: L.E. Carpenter

LAB ID: 9403L806-002

SAMPLE WT :

% MOISTURE :

INST:11 VIAL:FO SEQ NUMBER:011

DATE-TIME INJECTED : 03/23/94 00:31:25

DATE-TIME PROCESSED : 03/23/94 01:11:47

ANALYST: MANZANO SAMP RATE: 0.78

SAMPLE VOL:

COLUMN TYPE: RSL-160

RAW FILE: RAW1:CN446861

DILUTION FACTOR : 1.0000

PK NO	PEAK AREA	PEAK HEIGHT	BL RT MINUTES	GR #	COMPONENT NAME	HEIGHT CONC PPB
001	9369	1551	V 9.364	1	MTBE	1.158
002	20428	1317	V 11.365	1	BENZENE	0.271
003	310269	38900	V 13.760	1	a,a,a-TRIFLUOROTOLUE	19.813
004	27143	1759	V 16.813	1	TOLUENE	0.424
005	16649	1938	V 19.428			
			21.845	1	CHLOROBENZENE	
			22.307	1	ETHYLBENZENE	
006	27304	3054	V 22.726	1	M,P-XYLENE	0.773
			24.337	1	XYLENE (TOTAL)	
007	25615	1985	V 25.348			
008	33978	972	V 28.472			
009	14724	1006	V 30.109			
010	44870	5054	V 31.236	1	1,4-DICHLOROBENZENE	1.689
			31.259	1	1,3-DICHLOROBENZENE	
			31.681	1	1,4-DICHLOROBENZENE	
			33.342	1	1,2-DICHLOROBENZENE	
011	16884	1186	V 34.944			
012	123876	12215	V 36.831			



Kathy Manzano
4/15/94

GC VOLATILES SHEET

CLIENT SAMPLE NO.

Lab Name: Roy F. Weston, Inc. Work Order: 06720-013-001-0

MW-15S

Client: L.E. CarpenterMatrix: WATERLab Sample ID: 9403L806-003Sample wt/vol: 5.0 (g/mL) MLLab File ID: CN446949Level: (low/med) LOWDate Received: 03/12/94% Moisture: not dec. Date Analyzed: 03/23/94Column: (pack/cap) CAPDilution Factor: 1.0

CONCENTRATION UNITS:

(ug/L or ug/Kg) ug/L

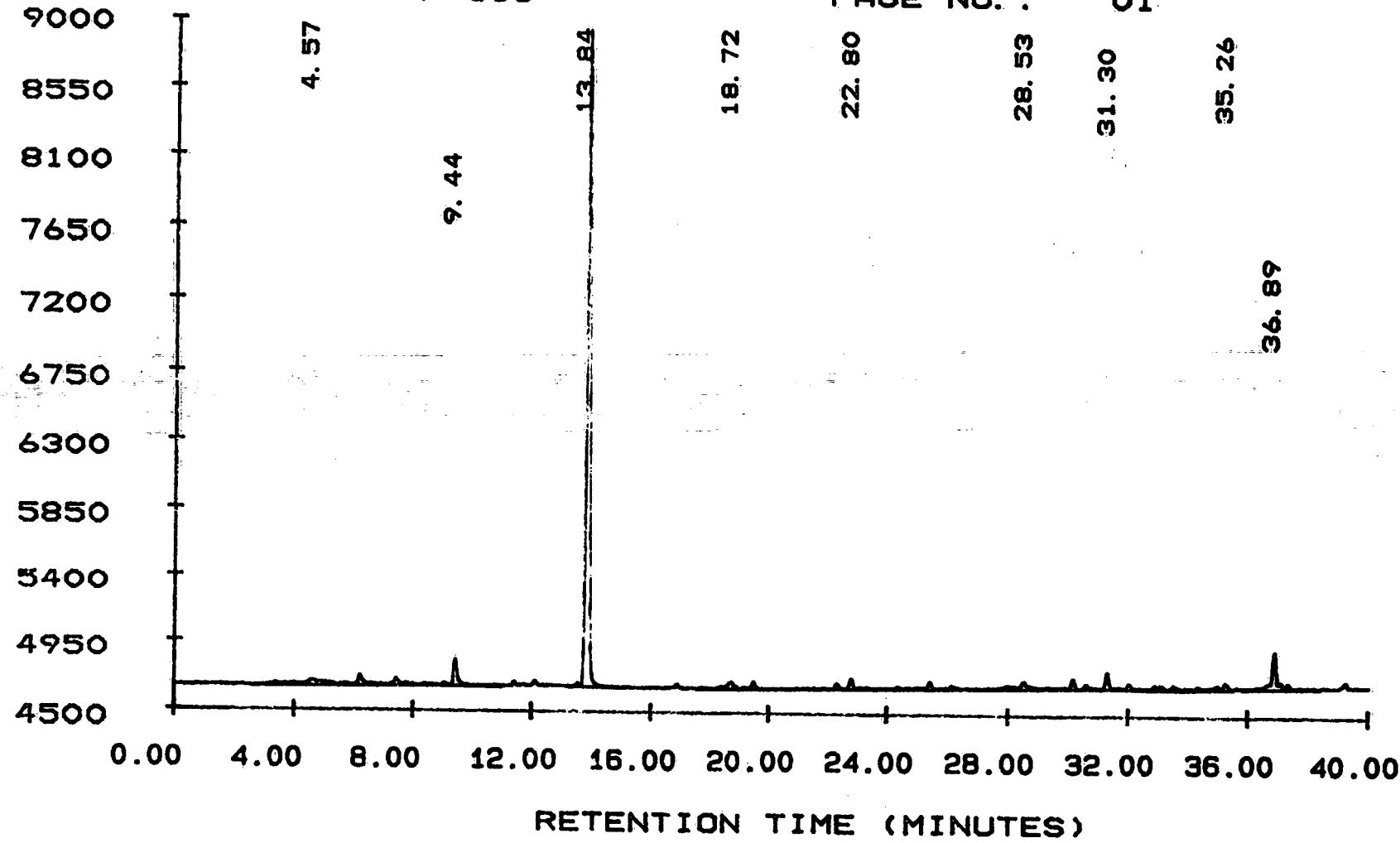
CAS NO.	COMPOUND		
71-43-2-----	Benzene	1.0	U
108-88-3-----	Toluene	1.0	U
100-41-4-----	Ethylbenzene	1.0	U
1330-20-7-----	Xylene (Total)	2.0	U

12/88 Rev.

806 dm³/4/94

9403L~~803~~-003

SAMPLE NO.: 03229411 . 20 DIL: 1. 0000 INSTRUMENT: 11
TEST NO.:
METHOD NO.: 11S / 11S DATE TIME: 03/23/94 10:43:03
PAGE NO.: 01



Y MAXIMUM: 9000.
Y MINIMUM: 4500.

START TIME: 0. 00
END TIME: 40. 00

03/23/94 11:23:20

EXTERNAL STANDARD

SAMPLE: 03229411 .20

INST:11 VIAL:FO SEQ NUMBER:020

TEST : 08020

DATE-TIME INJECTED : 03/23/94 10:43:03

COLLECTION TIME : 40.01

DATE-TIME PROCESSED : 03/23/94 11:23:20

METHOD: 11S / 11S REV #: 00120 ANALYST: KIMO SAMP RATE: 0.78

CLIENT ID: MW93994

SAMPLE VOL:

CLIENT: City of Philadelphia

COLUMN TYPE: RSL-160

LAB ID: 9403L803-003

RAW FILE: RAW1:CN446949

SAMPLE WT :

% MOISTURE :

DILUTION FACTOR : 1.0000

PK NO	PEAK AREA	PEAK HEIGHT	BL	RT MINUTES	GR #	COMPONENT NAME	HEIGHT CONC PPB
001	46899	331	V	4.574			
002	19114	1682	V	9.436	1	MTBE	1.255
				11.445	1	BENZENE	
003	315780	41256	V	13.838	1	a,a,a-TRIFLUOROTOLUE	21.013
				16.884	1	TOLUENE	
004	17100	446	V	18.719			
				21.845	1	CHLOROBENZENE	
				22.307	1	ETHYLBENZENE	
005	37747	669	V	22.801	1	M,P-XYLENE	<u>-0.169</u>
				24.337	1	XYLENE (TOTAL)	
006	31626	537	V	28.528			
				31.259	1	1,3-DICHLOROBENZENE	
007	23988	1045	V	31.297	1	1,4-DICHLOROBENZENE	0.349
				33.342	1	1,2-DICHLOROBENZENE	
008	12600	412	V	35.255			
009	34478	2412		36.891			

K. D. Weston 4/15/94

GC VOLATILES SHEET

CLIENT SAMPLE NO.

Lab Name: Roy F. Weston, Inc. Work Order: 06720-013-001-0

MW-22

Client: L.E. CarpenterMatrix: WATERLab Sample ID: 9403L806-004Sample wt/vol: 5.0 (g/mL) MLLab File ID: CN446969Level: (low/med) LOWDate Received: 03/12/94% Moisture: not dec. Date Analyzed: 03/23/94Column: (pack/cap) CAPDilution Factor: 1.0

CONCENTRATION UNITS:

(ug/L or ug/Kg) ug/L

CAS NO.	COMPOUND		
71-43-2-----	Benzene	1.0	U
108-88-3-----	Toluene	1.0	U
100-41-4-----	Ethylbenzene		E
1330-20-7-----	Xylene (Total)		E

12/88 Rev.

SAMPLE NO. :

03229411 . 21 DIL: 1. 0000 INSTRUMENT: 11

TEST NO. :

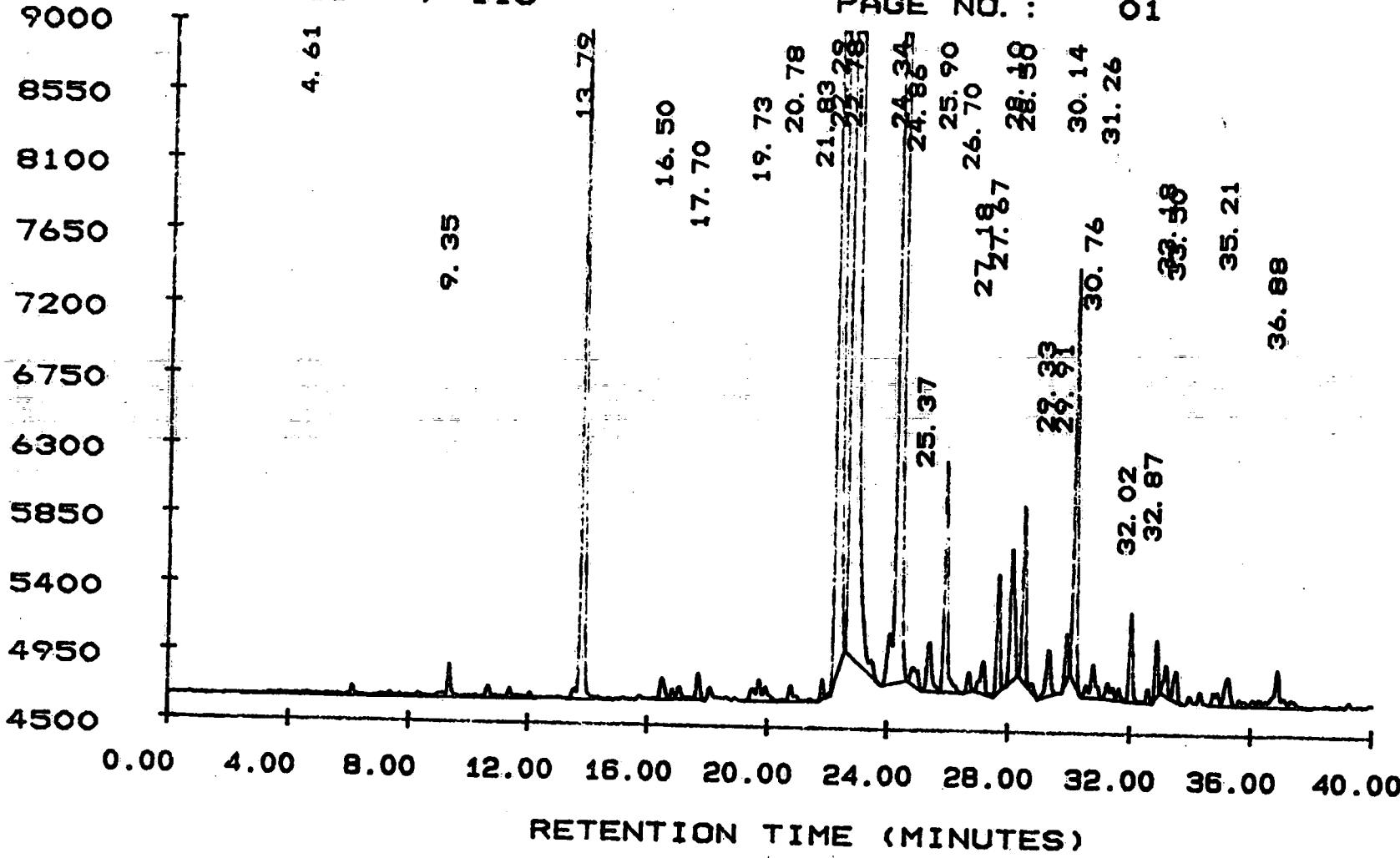
METHOD NO. : 11S / 11S

806
TMS/03/94

9403L803-004

DATE TIME: 03/23/94 11:40:39

PAGE NO. : 01



EXTERNAL STANDARD

SAMPLE: 03229411 .21
 TEST : 08020
 COLLECTION TIME : 40.01
 METHOD: 11S / 11S REV #: 00120 ANALYST: KIMO
 CLIENT ID: OW63994
 CLIENT: City of Philadelphia
 LAB ID: 9403L803-004
 SAMPLE WT : % MOISTURE :
 INST:11 VIAL:FO SEQ NUMBER:021
 DATE-TIME INJECTED : 03/23/94 11:40:39
 DATE-TIME PROCESSED : 03/23/94 12:20:54
 SAMP RATE: 0.78
 SAMPLE VOL:
 COLUMN TYPE: RSL-160
 RAW FILE: RAW1:CN446969
 DILUTION FACTOR : 1.0000

PK NO	PEAK AREA	PEAK HEIGHT	BL	RT MINUTES	GR #	COMPONENT NAME	HEIGHT CONC	PPB
001	25172	171	V	4.612				
002	62310	2050	V	9.355	1	MTBE	1.531	
				11.445	1	BENZENE		
003	318956	41343	V	13.790	1	a,a,a-TRIFLUOROTOLUE	21.058	
004	27840	1390	V	16.503				
				16.884	1	TOLUENE		
005	13222	1647	V	17.695				
006	31991	1346	V	19.732				
007	14858	1005	V	20.780				
008	8352	1225	V	21.832	1	CHLOROBENZENE	-0.309	
009	3788289	519506	V	22.295	1	ETHYLBENZENE	145.602	E
010	10189343	1012794	V	22.784	1	M,P-XYLENE	256.268	
011	2156471	291408	V	24.338	1	XYLENE (TOTAL)	84.392	E
012	17626	1104	V	24.864				
013	34026	3113	V	25.368				
014	120161	14485	V	25.897				
015	9391	1219	V	26.703				
016	23245	2016	V	27.179				
017	53434	7442	V	27.674				
018	84189	8352	V	28.096				
019	84590	10996	V	28.496				
020	29510	2875	V	29.332				
021	19509	2877	V	29.911				
022	178363	25508	V	30.137				
023	28456	2087	V	30.765				
024	20860	1030	V	31.258	1	1,3-DICHLOROBENZENE	0.286	
025	50650	5637	V	32.022	1	1,4-DICHLOROBENZENE	1.884	
026	23447	3568	V	32.870				
027	16782	1860	V	33.175				
028	18395	1891	V	33.501	1	1,2-DICHLOROBENZENE	0.718	
029	36147	1826	V	35.213				
030	55846	2318		36.880				

K. Offman
4/15/94

GC VOLATILES SHEET

Lab Name: Roy F. Weston, Inc. Work Order: 06720-013-001-0

MW-22DL

Client: L.E. CarpenterMatrix: WATERLab Sample ID: 9403L806-004 DLSample wt/vol: 5.0 (g/mL) MLLab File ID: CN447186Level: (low/med) LOWDate Received: 03/12/94% Moisture: not dec. Date Analyzed: 03/23/94Column: (pack/cap) CAPDilution Factor: 25.0

CONCENTRATION UNITS:

(ug/L or ug/Kg) ug/L

CAS NO.	COMPOUND		
71-43-2-----	Benzene	NA	
108-88-3-----	Toluene	NA	
100-41-4-----	Ethylbenzene	150	
1330-20-7-----	Xylene (Total)	590	

12/88 Rev.

SAMPLE NO. :

9403G806-004

TEST NO. :

03229411 . 29 DIL: 25. 000 INSTRUMENT: 11

METHOD NO. :

11S / 11S

9000

8550

8100

7650

7200

6750

6300

5850

5400

4950

4500

0.00 4.00 8.00 12.00 16.00 20.00 24.00 28.00 32.00 36.00 40.00

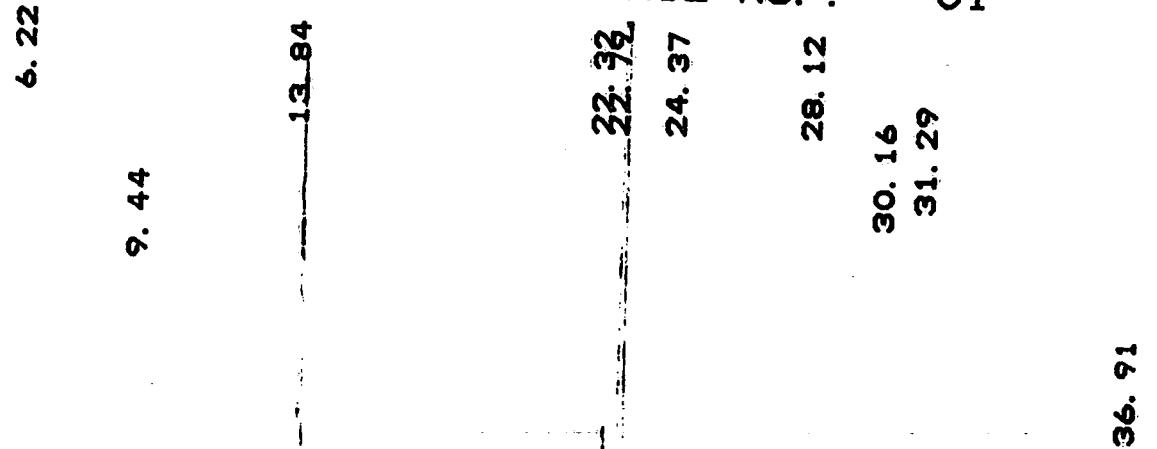
RETENTION TIME (MINUTES)

Y MAXIMUM: 9000.

Y MINIMUM: 4500.

START TIME: 0. 00

END TIME: 40. 00



EXTERNAL STANDARD

SAMPLE: 03229411 .29

TEST :

COLLECTION TIME : 40.01

METHOD: 11S / 11S REV #: 00120

CLIENT ID:

CLIENT:

LAB ID: 9403G806-004

SAMPLE WT :

% MOISTURE :

INST:11 VIAL:F0 SEQ NUMBER:029

DATE-TIME INJECTED : 03/23/94 20:44:06

DATE-TIME PROCESSED : 03/23/94 21:24:22

ANALYST: MANZANO SAMP RATE: 0.78

SAMPLE VOL:

COLUMN TYPE: RSL-160

RAW FILE: RAW1:CN447186

DILUTION FACTOR : 25.0000

PK NO	PEAK AREA	PEAK HEIGHT	BL	RT MINUTES	GR #	COMPONENT NAME	HEIGHT CONC PPB
001	29389	802	V	6.216			
002	17996	1671	V	9.438	1	MTBE	31.195
003	306951	39285	V	11.445	1	BENZENE	
				13.843	1	a,a,a-TRIFLUOROTOLUE	500.235
				16.884	1	TOLUENE	120.009
				21.845	1	CHLOROBENZENE	
004	149738	20851	V	22.325	1	ETHYLBENZENE	146.095
005	599894	80554	V	22.795	1	M,P-XYLENE	509.565
006	112482	11793	V	24.371	1	XYLENE (TOTAL)	85.381
007	27758	641	V	28.118			
008	20239	1433	V	30.162			594.94
009	17066	1338	V	31.259	1	1,3-DICHLOROBENZENE	
				31.287	1	1,4-DICHLOROBENZENE	11.183
				33.342	1	1,2-DICHLOROBENZENE	
010	46513	2509		36.915			

*K. Dammann
4/15/94*

GC VOLATILES SHEET

CLIENT SAMPLE NO.

Lab Name: Roy F. Weston, Inc. Work Order: 06720-013-001-0

MW-25

Client: L.E. CarpenterMatrix: WATERLab Sample ID: 9403L806-005Sample wt/vol: 5.0 (g/mL) MLLab File ID: CN446997Level: (low/med) LOWDate Received: 03/12/94

% Moisture: not dec.

Date Analyzed: 03/23/94Column: (pack/cap) CAPDilution Factor: 1.0

CONCENTRATION UNITS:

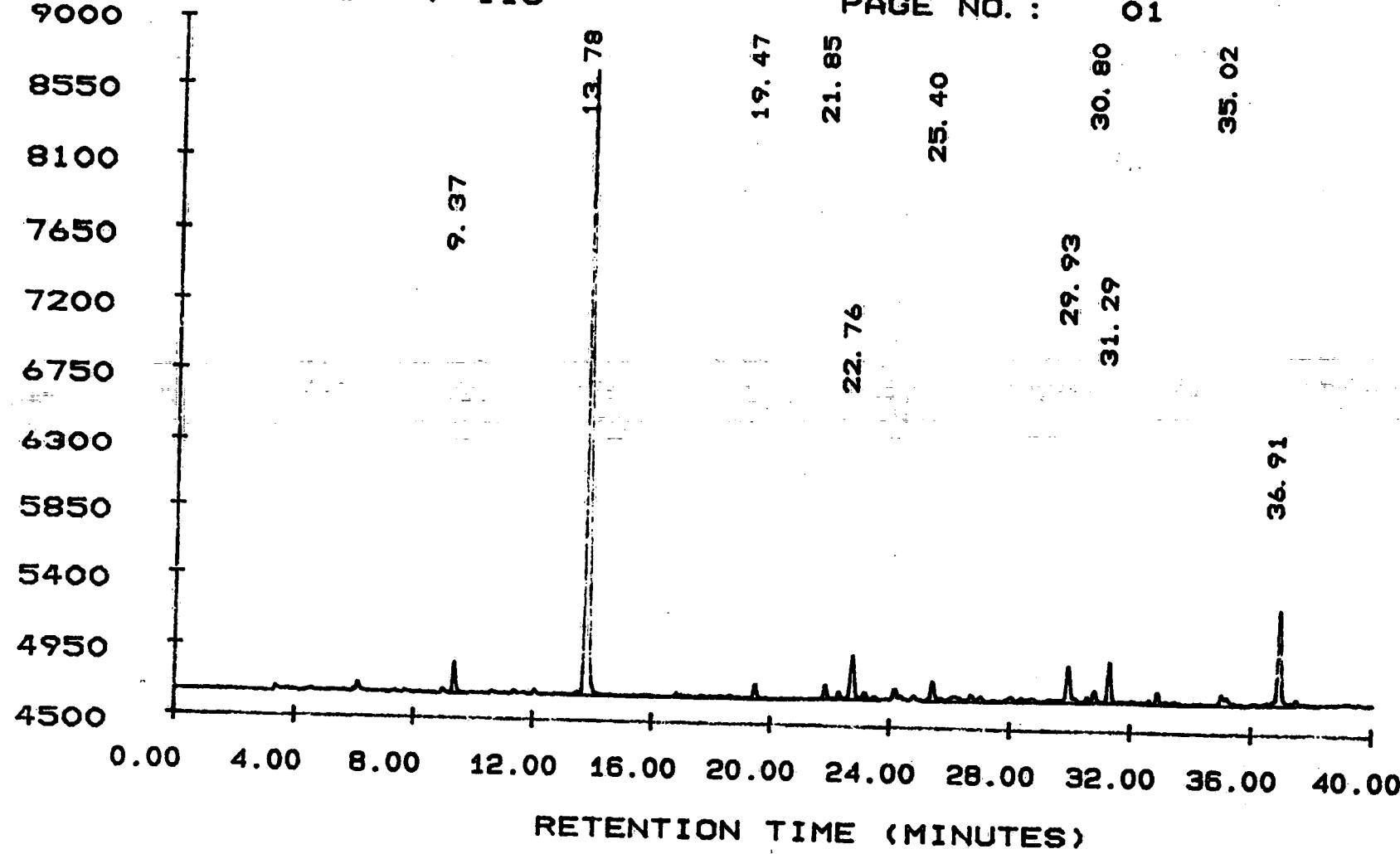
(ug/L or ug/Kg) ug/L

CAS NO.	COMPOUND		
71-43-2-----	Benzene	1.0	U
108-88-3-----	Toluene	1.0	U
100-41-4-----	Ethylbenzene	1.0	U
1330-20-7-----	Xylene (Total)	2.0	U

12/88 Rev.

9403L806-005

SAMPLE NO. : 03229411 . 22 DIL: 1. 0000 INSTRUMENT: 11
TEST NO. :
METHOD NO. : 11S / 11S DATE TIME: 03/23/94 12:38:31
9000 PAGE NO.: 01



Y MAXIMUM: 9000.
Y MINIMUM: 4500.

START TIME: 0. 00
END TIME: 40. 00

EXTERNAL STANDARD

SAMPLE: 03229411 .22
 TEST : 08020
 COLLECTION TIME : 40.01
 METHOD: 11S / 11S REV #: 00120 ANALYST: KIMO
 CLIENT ID: MW-25
 CLIENT: L.E. Carpenter
 LAB ID: 9403L806-005
 SAMPLE WT : % MOISTURE :

INST:11 VIAL:F0 SEQ NUMBER:022
 DATE-TIME INJECTED : 03/23/94 12:38:31
 DATE-TIME PROCESSED : 03/23/94 13:18:46
 SAMP RATE: 0.78
 SAMPLE VOL:
 COLUMN TYPE: RSL-160
 RAW FILE: RAW1:CN446997
 DILUTION FACTOR : 1.0000

PK NO	PEAK AREA	PEAK HEIGHT	BL	RT MINUTES	GR #	COMPONENT NAME	HEIGHT CONC PPB
001	12704	1811	V	9.369	1	MTBE	1.352
				11.445	1	BENZENE	
002	314560	38688	V	13.783	1	a,a,a-TRIFLUOROTOLUE	19.705
				16.884	1	TOLUENE	
003	15734	865	V	19.473			
004	12778	858	V	21.848	1	CHLOROBENZENE	-0.216
				22.307	1	ETHYLBENZENE	
005	30579	2671	V	22.762	1	M,P-XYLENE	-0.676
				24.337	1	XYLENE (TOTAL)	
006	29218	1194	V	25.404			
007	40820	2198	V	29.931			
008	8380	695	V	30.796			
009	35371	2454	V	31.259	1	1,3-DICHLOROBENZENE	
				31.294	1	1,4-DICHLOROBENZENE	0.820
010	16218	663	V	33.342	1	1,2-DICHLOROBENZENE	
011	60058	5865		35.023			
				36.914			


 L.E. Carpenter
 4/15/94

GC VOLATILES SHEET

CLIENT SAMPLE NO.

Lab Name: Roy F. Weston, Inc. Work Order: 06720-013-001-0

Trip Blank

Client: L.E. CarpenterMatrix: WATERLab Sample ID: 9403L806-006Sample wt/vol: 5.0 (g/mL) MLLab File ID: CN447015Level: (low/med) LOWDate Received: 03/12/94% Moisture: not dec. Date Analyzed: 03/23/94Column: (pack/cap) CAPDilution Factor: 1.0

CONCENTRATION UNITS:

(ug/L or ug/Kg) ug/L

CAS NO.	COMPOUND		
71-43-2-----	Benzene	1.0	U
108-88-3-----	Toluene	1.0	U
100-41-4-----	Ethylbenzene	1.0	U
1330-20-7-----	Xylene (Total)	2.0	U

12/88 Rev.

SAMPLE NO. :

03229411 . 23 DIL: 1. 0000 INSTRUMENT: 11

TEST NO. :

METHOD NO. :

11S / 11S

9000

8550

8100

7650

7200

6750

6300

5850

5400

4950

4500

9403L806-006

DATE TIME: 03/23/94 13:36:41

PAGE NO.: 01

6.15

9.37

13.79

18.69

22.77

30.15

31.29

36.91

0.00 4.00 8.00 12.00 16.00 20.00 24.00 28.00 32.00 36.00 40.00

RETENTION TIME (MINUTES)

Y MAXIMUM: 9000.

Y MINIMUM: 4500.

START TIME: 0. 00

END TIME: 40. 00

03/23/94 14:16:57

EXTERNAL STANDARD

SAMPLE: 03229411 .23

TEST : 08020

COLLECTION TIME : 40.01

METHOD: 11S / 11S

REV #: 00120

ANALYST: KIMO

CLIENT ID: Trip Blank

CLIENT: L.E. Carpenter

LAB ID: 9403L806-006

SAMPLE WT :

% MOISTURE :

INST:11 VIAL:F0 SEQ NUMBER:023

DATE-TIME INJECTED : 03/23/94 13:36:41

DATE-TIME PROCESSED : 03/23/94 14:16:57

SAMP RATE: 0.78

SAMPLE VOL:

COLUMN TYPE: RSL-160

RAW FILE: RAW1:CN447015

DILUTION FACTOR : 1.0000

PK NO	PEAK AREA	PEAK HEIGHT	BL	RT MINUTES	GR #	COMPONENT NAME	HEIGHT CONC PPB
001	13459	1632	V	6.155			
002	20236	1854	V	9.374	1	MTBE	1.384
003	294805	37424	V	11.445	1	BENZENE	
				13.786	1	a,a,a-TRIFLUOROTOLUE	19.061
				16.884	1	TOLUENE	
004	19959	448	V	18.688			
				21.845	1	CHLOROBENZENE	
				22.307	1	ETHYLBENZENE	
005	38515	896	V	22.768	1	M,P-XYLENE	-0.227
				24.337	1	XYLENE (TOTAL)	
006	15495	434	V	30.154			
				31.259	1	1,3-DICHLOROBENZENE	
007	19498	1866	V	31.291	1	1,4-DICHLOROBENZENE	0.624
				33.342	1	1,2-DICHLOROBENZENE	
008	45526	4383		36.914			

K. Weston
3/23/94

IV. Standards Data Package
A. Chromatograms/quant reports

DATE: 03/15/94
RUN BATCH NO.: 03159411
ANALYST: SK

LINEARITY STANDARDS

COMPOUND	PK HT			PK HT			PK HT			PK HT			PK HT				
	STD CF 1	STD CONC (ng)	CF 1	STD CF 2	STD CONC (ng/u)	CF 2	STD CF 3	STD CONC (ng)	CF 3	STD CF 4	STD CONC (ng)	CF 4	STD CF 5	STD CONC (ng)	CF AVG CF	%RSD COMPOUND	
1) BENZENE	3886	4.0	971.5	12096	12.0	1008.0	18736	20.0	936.8	29725	32.0	928.9	77655	80.0	970.7	963.2	3.29
2) TOLUENE	3349	4.0	837.3	10799	12.0	892.4	16900	20.0	840.0	25728	32.0	804.0	69149	80.0	864.4	847.6	3.89
3) CHLOROBENZENE	3103	4.0	775.8	9674	12.0	806.2	16267	20.0	813.4	24653	32.0	770.4	65899	80.0	823.7	797.9	2.95
4) ETHYLBENZENE	2737	4.0	684.3	8762	12.0	730.2	13829	20.0	691.5	20850	32.0	651.6	56737	80.0	709.2	693.3	4.23
5) M, P-XYLENE	6053	8.0	756.6	19881	24.0	828.4	30396	40.0	759.9	46543	64.0	727.2	126888	160.0	793.1	773.0	5.01
6) XYLENE (TOTAL)	2671	4.0	667.8	8913	12.0	742.8	13781	20.0	689.1	21026	32.0	657.1	55559	80.0	694.5	690.2	4.00
7) 1,3-DICHLOROBENZENE	3148	4.0	787.0	10150	12.0	845.8	12784	20.0	639.2	20172	32.0	630.4	52184	80.0	652.3	710.9	13.90
8) 1,4-DICHLOROBENZENE	2243	4.0	560.8	6989	12.0	582.4	11633	20.0	581.7	17774	32.0	555.4	49692	80.0	621.2	580.3	4.46
9) 1,2-DICHLOROBENZENE	2024	4.0	506.0	6468	12.0	539.0	10268	20.0	513.4	15848	32.0	495.3	41838	80.0	523.0	515.3	3.24

COMPOUND	STD #01 PK HT	STD CONC (ng)	CF	% D	STD #12 PK HT	STD CONC (ng)	CF	% D	STD #13 PK HT	STD C (ng)	CF	% D	STD #19 PK HT	STD CO (ng)	CF	% D
1) BENZENE	12036	12.0	1003.0	4.13	9121	12.0	760.1	21.09 *	9441	12.0	786.8	18.32 *	10109	12.0	842.4	12.54
2) TOLUENE	11781	12.0	981.8	15.83	7770	12.0	647.5	23.61 *	8522	12.0	718.5	15.23	10467	12.0	872.3	2.91
3) CHLOROBENZENE	9107	12.0	758.9	4.88	7495	12.0	624.6	21.72	7674	12.0	639.5	19.85	8632	12.0	719.3	9.84
4) ETHYLBENZENE	8729	12.0	727.4	4.92	6669	12.0	556.8	19.84	6906	12.0	575.5	16.99 *	7626	12.0	635.5	8.34
5) M,P-XYLENE	21387	24.0	891.1	15.28	15045	24.0	626.9	18.91 *	15335	24.0	639.0	17.34 *	17004	24.0	708.5	8.35
6) XYLENE (TOTAL)	8644	12.0	720.3	4.36	6476	12.0	539.7	21.81 *	6810	12.0	567.5	17.78 *	7372	12.0	614.3	10.99
7) 1,3-DICHLOROBENZENE	8407	12.0	700.6	1.46	9138	12.0	761.5	7.11	8380	12.0	698.3	1.77	7661	12.0	638.4	10.20
8) 1,4-DICHLOROBENZENE	6819	12.0	568.3	2.07	5617	12.0	468.1	19.34	5868	12.0	489.0	15.73	6472	12.0	539.3	7.06
9) 1,2-DICHLOROBENZENE	5905	12.0	492.1	4.51	4986	12.0	415.5	19.37	5214	12.0	434.5	15.68	5651	12.0	470.9	8.62

ZYMPHOR4	STD #30 PK HT	STD CONC (ng)	CF	% D	STD #31 PK HT	STD CONC (ng)	CF	% D
1) BENZENE	9131	12.0	760.9	21.00 *	10130	12.0	844.2	12.36
2) TOLUENE	7994	12.0	666.2	21.41 *	8660	12.0	721.7	14.86
3) CHLOROBENZENE	7773	12.0	647.8	18.82	8351	12.0	695.9	12.78
4) ETHYLBENZENE	6793	12.0	566.1	18.35 *	7648	12.0	654.0	5.67
5) M,P-XYLENE	15498	24.0	645.8	16.47 *	17099	24.0	712.5	7.84
6) XYLENE (TOTAL)	6606	12.0	550.5	20.24 *	7314	12.0	609.5	11.69
7) 1,3-DICHLOROBENZENE	7303	12.0	608.6	14.40	7435	12.0	619.6	12.85
8) 1,4-DICHLOROBENZENE	5847	12.0	487.3	16.03	6261	12.0	521.8	10.09
9) 1,2-DICHLOROBENZENE	5171	12.0	430.9	16.38	5617	12.0	468.1	9.17

* Exceed Method Limits

TP
4/16/94

8020 STD 1UL

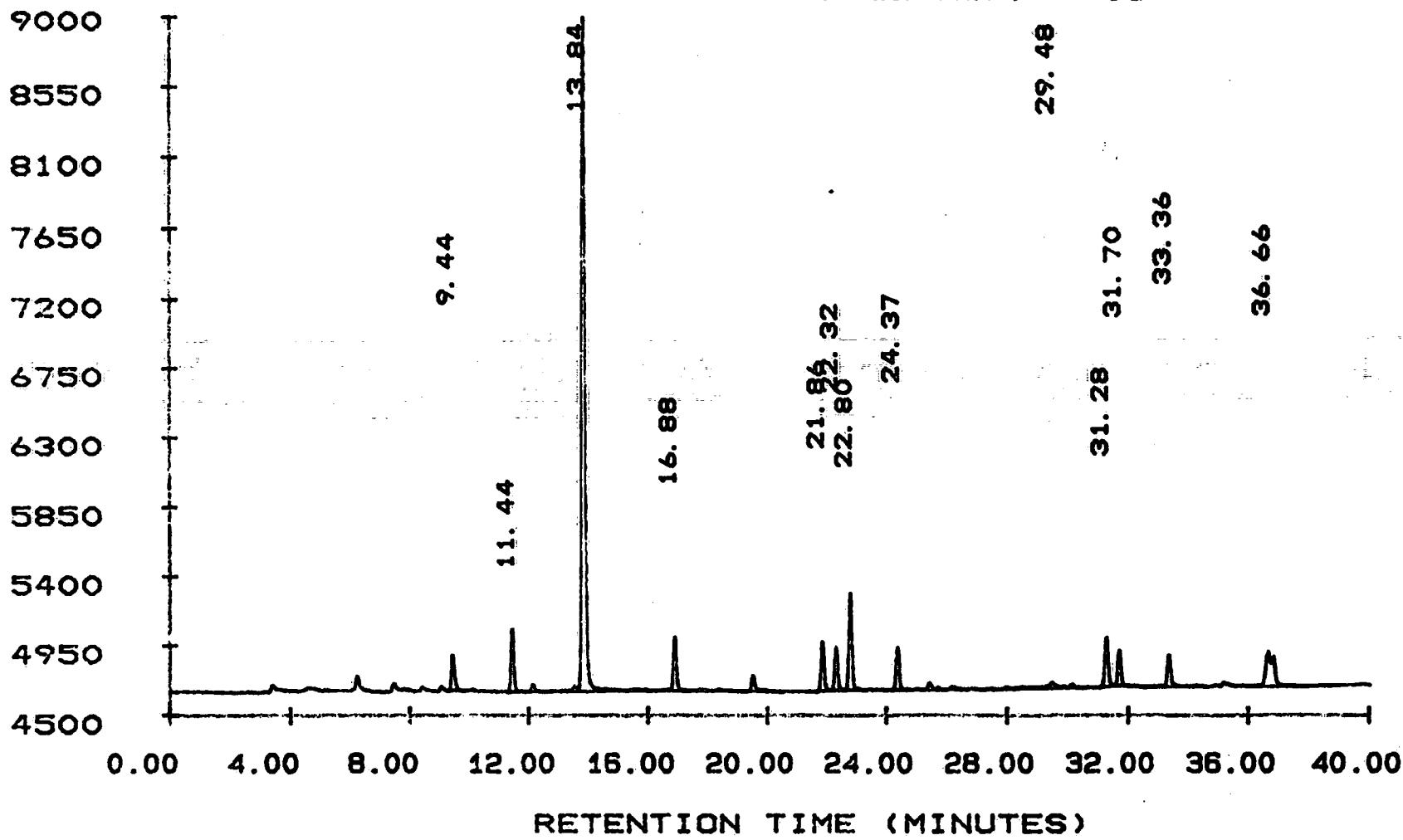
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TEST NO. :

DATE TIME: 03/17/94 11:23:27

METHOD NO. : 11S / 11S

PAGE NO. : 01



Y MAXIMUM: 9000.
Y MINIMUM: 4500.

START TIME: 0.00
END TIME: 40.00

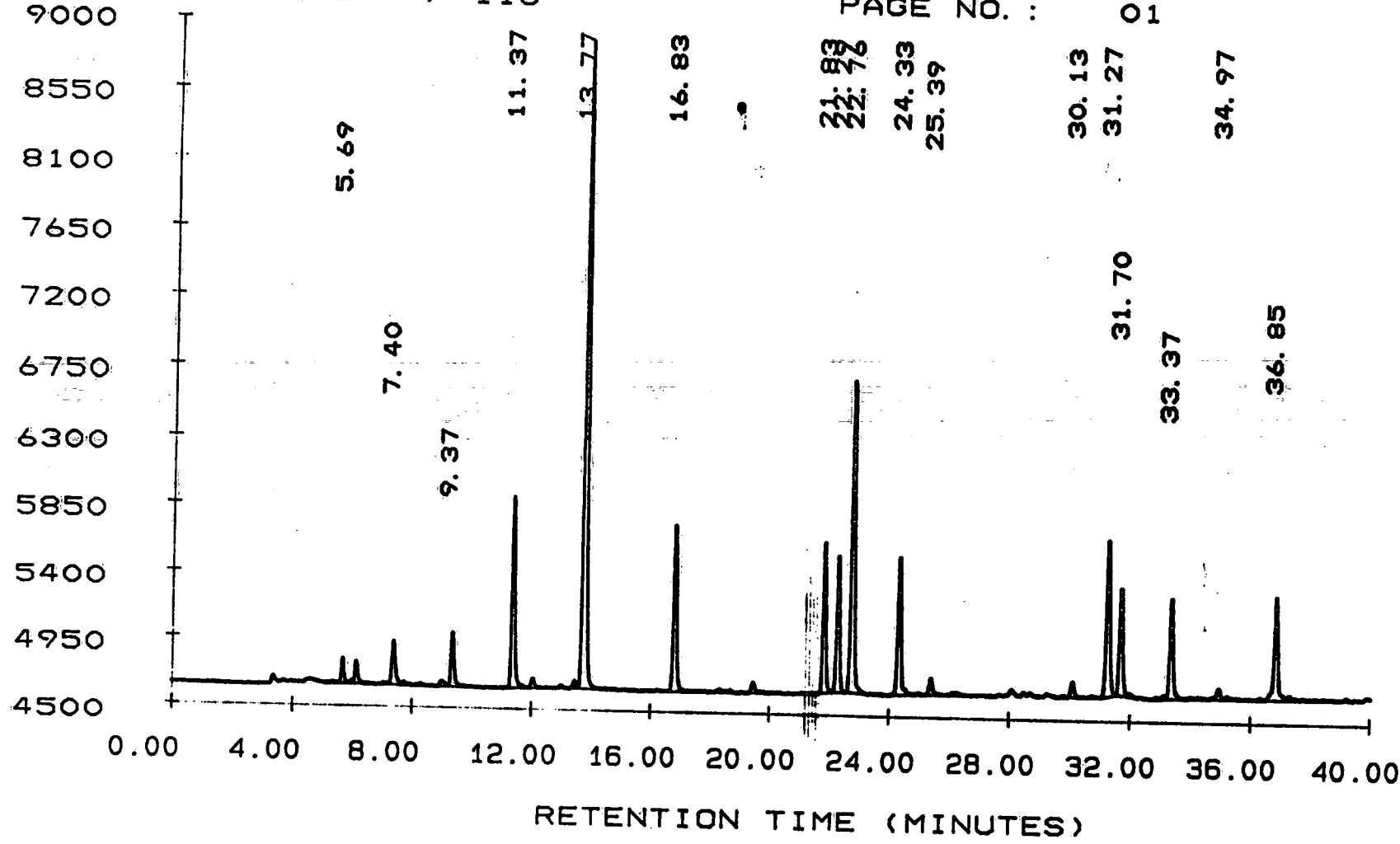
EXTERNAL STANDARD

SAMPLE: 03159411 .23
 TEST :
 COLLECTION TIME : 40.01
 METHOD: 11S / 11S REV #: 00119 ANALYST: MANZANO SAMP RATE: 0.78
 CLIENT ID:
 CLIENT:
 LAB ID: 8020 STD 1UL
 SAMPLE WT : % MOISTURE :
 SAMPLE VOL:
 COLUMN TYPE: RSL-160
 RAW FILE: RAW2:CH444964
 DILUTION FACTOR : 1.0000

PK NO	PEAK AREA	PEAK HEIGHT	BL RT MINUTES	GR #	COMPONENT NAME	HEIGHT CONC PPB
001	16474	2171	V 9.445	1	MTBE	1.524
002	32562	3886	V 11.442	1	BENZENE	0.771
003	377319	47693	V 13.837	1	a,a,a-TRIFLUOROTOLUE	39.873
004	43774	3349	V 16.885	1	TOLUENE	0.751
005	23414	3103	V 21.860	1	CHLOROBENZENE	0.770
006	20288	2737	V 22.323	1	ETHYLBENZENE	0.750
007	45502	6053	V 22.799	1	M,P-XYLENE	1.461
008	29906	2671	V 24.372	1	XYLENE (TOTAL)	0.719
009	18444	369	V 29.478			
010	24873	3148	V 31.278	1	1,3-DICHLOROBENZENE	0.744
011	18398	2243	V 31.700	1	1,4-DICHLOROBENZENE	0.770
012	21434	2024	V 33.363	1	1,2-DICHLOROBENZENE	0.751
013	43332	2231	V 36.659			

8020 3UL

SAMPLE NO. : 03159411 . 03 DIL: 1. 0000 INSTRUMENT: 11
TEST NO. :
METHOD NO. : 11S / 11S DATE TIME: 03/15/94 15:34:42
9000 PAGE NO. : 01



Y MAXIMUM: 9000.
Y MINIMUM: 4500.

START TIME: 0. 00
END TIME: 40. 00

Roy F. Weston, Inc. - Gulf Coast Laboratories

04/13/94 14:38:33

EXTERNAL STANDARD

SAMPLE: 03159411 .03
 TEST :
 COLLECTION TIME : 40.01
 METHOD: 11S / 11S REV #: 00120 ANALYST: KIMO SAMP RATE: 0.78
 CLIENT ID:
 CLIENT:
 LAB ID: 8020 3UL
 SAMPLE WT : % MOISTURE :
 SAMPLE VOL:
 COLUMN TYPE: RSL-160
 RAW FILE: RAW2:CF444502
 DILUTION FACTOR : 1.0000

PK NO	PEAK AREA	PEAK HEIGHT	BL	RT MINUTES	GR #	COMPONENT NAME	HEIGHT CONC PPB
001	22397	1454	V	5.695			
002	31380	2758	V	7.396			
003	35299	3418	V	9.369	1	MTBE	2.552
004	98921	12096	V	11.369	1	BENZENE	2.490
005	325433	40907	V	13.769	1	a,a,a-TRIFLUOROTOLUE	20.836
006	101811	10709	V	16.832	1	TOLUENE	2.583
007	69903	9674	V	21.827	1	CHLOROBENZENE	2.438
008	63053	8762	V	22.287	1	ETHYLBENZENE	2.456
009	154368	19881	V	22.761	1	M,P-XYLENE	5.031
010	70243	8913	V	24.330	1	XYLENE (TOTAL)	2.581
011	14136	1069	V	25.388			
012	10330	970	V	30.126			
013	80461	10150	V	31.275	1	1,3-DICHLOROBENZENE	2.820
014	55437	6989	V	31.701	1	1,4-DICHLOROBENZENE	2.336
015	54769	6468	V	33.373	1	1,2-DICHLOROBENZENE	2.457
016	14071	695	V	34.966			
017	69591	6662		36.855			

8020 5UL

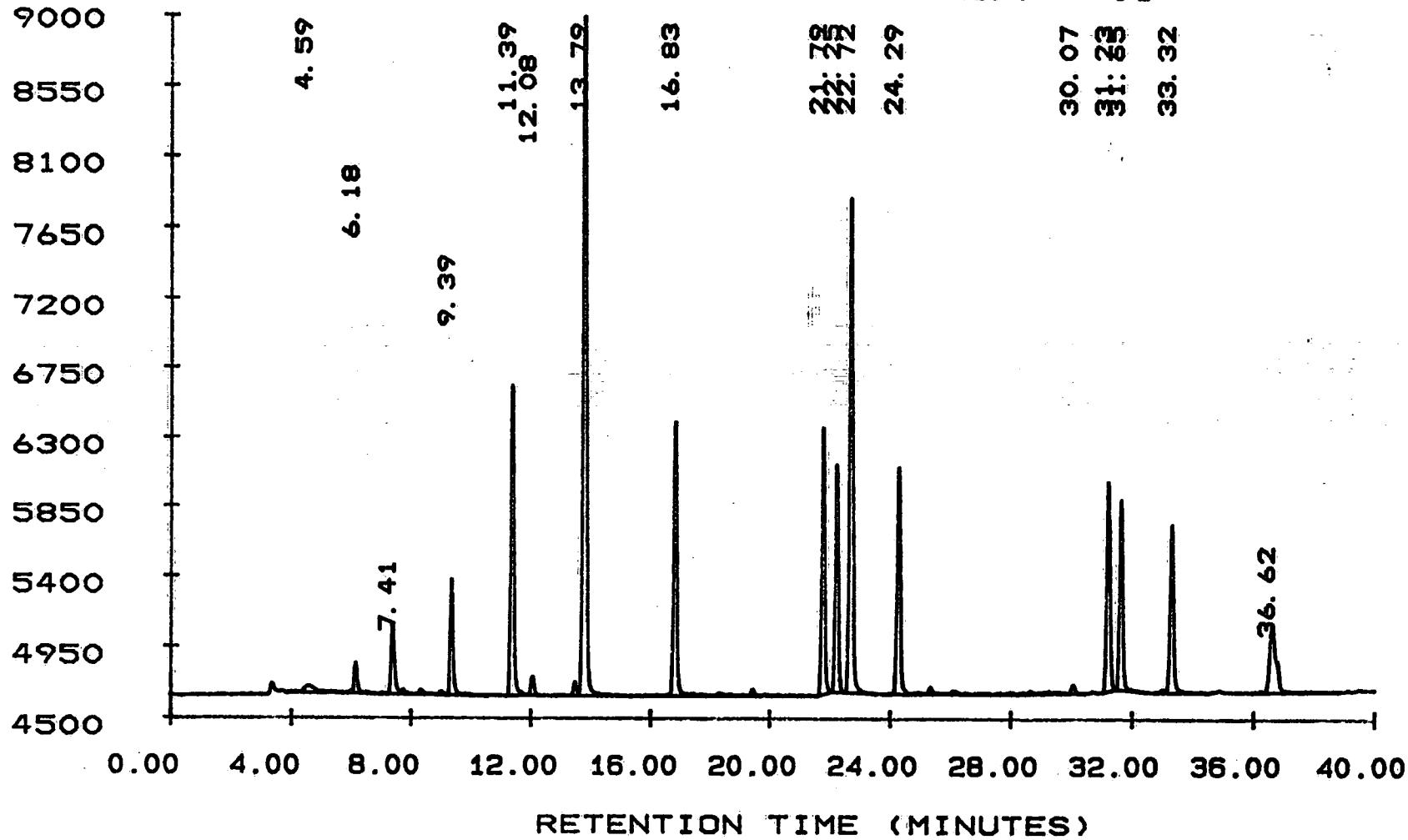
SAMPLE NO. : 03159411 . 08 DIL: 1. 0000 INSTRUMENT: 11

TEST NO. :

DATE TIME: 03/16/94 08:26:32

METHOD NO. : 11S / 11S

PAGE NO. : 01

Y MAXIMUM: 9000.
Y MINIMUM: 4500.START TIME: 0. 00
END TIME: 40. 00

EXTERNAL STANDARD

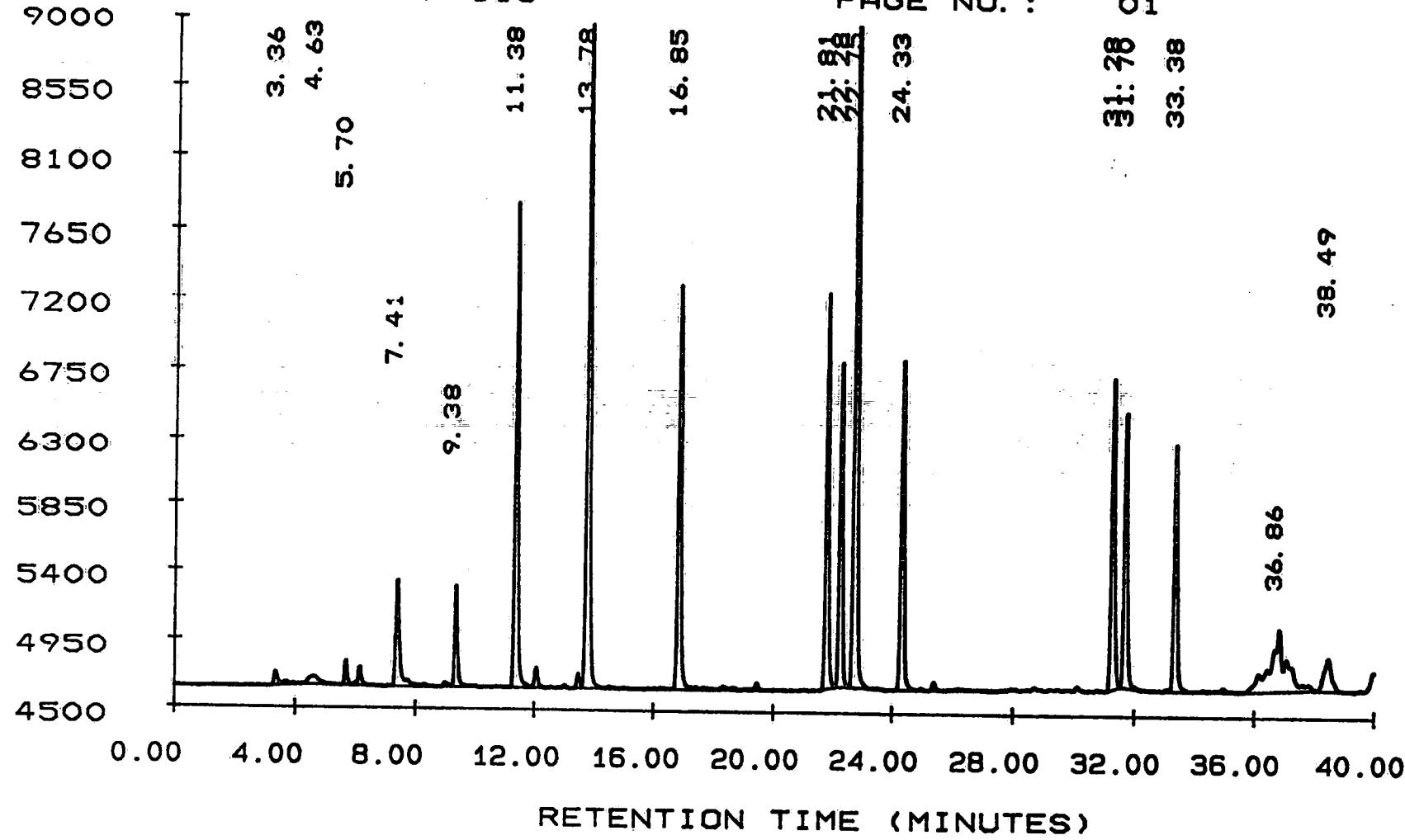
SAMPLE: 03159411 .08
 TEST :
 COLLECTION TIME : 40.01
 METHOD: 11S / 11S REV #: 00117 ANALYST: KOUVAKAS SAMP RATE: 0.78
 CLIENT ID:
 CLIENT:
 LAB ID: 8020 5UL
 SAMPLE WT : % MOISTURE :
 SAMPLE VOL:
 COLUMN TYPE: RSL-160
 RAW FILE: RAW2:CG444686
 DILUTION FACTOR : 1.0000

PK NO	PEAK AREA	PEAK HEIGHT	BL	RT MINUTES	GR #	COMPONENT NAME	HEIGHT CONC	PPB
		V		0.000				
		V		0.000				
		V		0.000				
		V		0.000				
		V		0.000				
		V		0.000				
		V		0.000				
		V		0.000				
		V		0.000				
001	13888	439	V	4.592				
002	15253	1749	V	6.179				
003	44498	4290		7.415	MTBE		3.203	
004	55965	6969	V	9.389				
005	134722	18736		11.391	BENZENE		3.858	
006	9020	1157	V	12.078				
007	377941	47344	V	13.787	a,a,a-TRIFLUOROTOLUE	24.114		
008	150784	16800		16.834	TOLUENE	4.053		
009	115815	16267		21.791	CHLOROBENZENE	4.099		
010	101562	13829		22.249	ETHYLBENZENE	3.876		
011	236025	30396		22.721	M,P-XYLENE	7.691		
012	118114	13781	V	24.288	XYLENE (TOTAL)	3.991		
013	14240	531	V	30.070				
014	98151	12784		31.230	1,3-DICHLOROBENZENE	3.552		
015	88942	11633		31.650	1,4-DICHLOROBENZENE	3.888		
016	85847	10268		33.316	1,2-DICHLOROBENZENE	3.900		
017	66654	4311		36.622				

All compounds were quantitated using method 11S except those which are labeled.

8020 8UL

SAMPLE NO.: 03159411 .05 DIL: 1.0000 INSTRUMENT: 11
TEST NO.:
METHOD NO.: 11S / 11S DATE TIME: 03/15/94 17:29:28
9000 PAGE NO.: 01



Y MAXIMUM: 9000.
Y MINIMUM: 4500.

START TIME: 0.00
END TIME: 40.00

EXTERNAL STANDARD

SAMPLE: 03159411 .05 INST:11 VIAL:F0 SEQ NUMBER:005
 TEST : DATE-TIME INJECTED : 03/15/94 17:29:28
 COLLECTION TIME : 40.01 DATE-TIME PROCESSED : 03/15/94 18:09:41
 METHOD: 11S / 11S REV #: 00117 ANALYST: KIMO SAMP RATE: 0.78
 CLIENT ID: SAMPLE VOL:
 CLIENT: COLUMN TYPE: RSL-160
 LAB ID: 8020 8UL RAW FILE: RAW2:CF444528
 SAMPLE WT : % MOISTURE : DILUTION FACTOR : 1.0000

PK NO	PEAK AREA	PEAK HEIGHT	BL RT MINUTES	GR #	COMPONENT NAME	HEIGHT CONC PPB
		V	0.000			
		V	0.000			
		V	0.000			
		V	0.000			
		V	0.000			
		V	0.000			
		V	0.000			
		V	0.000			
		V	0.000			
		V	0.000			
001	10326	860	V 3.357			
002	13657	514	V 4.629			
003	19174	1431	V 5.703			
004	66070	6726	7.409	MTBE		5.021
005	48998	6143	V 9.382			
006	226016	29725	11.384	BENZENE		6.120
007	341419	41872	13.782	a,a,a-TRIFLUOROTOLUE		21.327
008	206204	25728	16.846	TOLUENE		6.206
009	175574	24653	21.811	CHLOROBENZENE		6.212
010	152749	20850	22.276	ETHYLBENZENE		5.844
011	353366	46543	22.754	M,P-XYLENE		11.777
012	165297	21026	V 24.329	XYLENE (TOTAL)		6.089
013	153712	20172	31.280	1,3-DICHLOROBENZENE		5.605
014	137374	17774	31.701	1,4-DICHLOROBENZENE		5.941
015	129068	15848	33.376	1,2-DICHLOROBENZENE		6.020
016	158114	3982	V 36.858			
017	36990	2147	38.488			

All compounds were quantitated using method 11S except those which are labeled.

STD 8020 20 UL

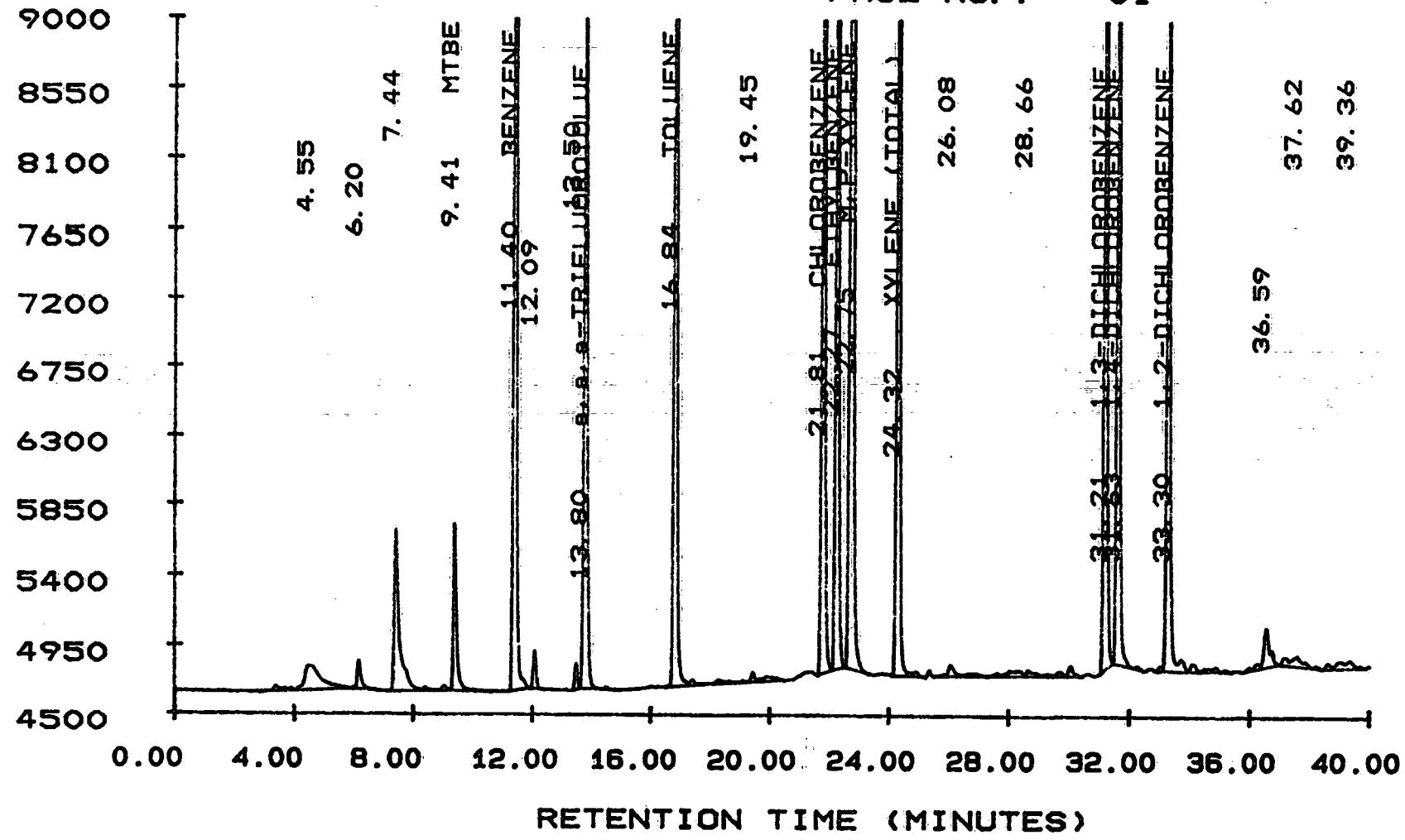
SAMPLE NO. : 03159411 . 40 DIL: 1. 0000 INSTRUMENT: 11

TEST NO. :

DATE TIME: 03/18/94 09:34:36

METHOD NO. : 11S / 11S

PAGE NO. : 01

Y MAXIMUM: 9000.
Y MINIMUM: 4500.START TIME: 0. 00
END TIME: 40. 00

EXTERNAL STANDARD

SAMPLE: 03159411 .40
 TEST :
 COLLECTION TIME : 40.01
 METHOD: 11S / 11S REV #: 00120 ANALYST: KIMO SAMP RATE: 0.78
 CLIENT ID:
 CLIENT:
 LAB ID: STD 8020 20
 SAMPLE WT : % MOISTURE :
 INST:11 VIAL:F0 SEQ NUMBER:040
 DATE-TIME INJECTED : 03/18/94 09:34:36
 DATE-TIME PROCESSED : 03/18/94 10:14:54
 SAMPLE VOL:
 COLUMN TYPE: RSL-160
 RAW FILE: RAW2:CI445309
 DILUTION FACTOR : 1.0000

PK NO	PEAK AREA	PEAK HEIGHT	BL	RT MINUTES	GR #	COMPONENT NAME	HEIGHT CONC	PPB
001	69444	1587	V	4.549				
002	16811	1730	V	6.197				
003	123438	10019	V	7.437				
004	86023	10060	V	9.409	1	MTBE	7.510	
005	530142	77655	V	11.403	1	BENZENE	15.989	
006	17126	2320	V	12.093				
007	10402	1566	V	13.499				
008	359838	45697	V	13.801	1	a,a,a-TRIFLUOROTOLUE	23.275	
009	492074	69149	V	16.840	1	TOLUENE	16.681	
010	20800	602	V	19.447				
011	470118	65899	V	21.806	1	CHLOROBENZENE	16.604	
012	414157	56737	V	22.270	1	ETHYLBENZENE	15.902	
013	947528	126888	V	22.747	1	M,P-XYLENE	32.107	
014	412534	55559	V	24.316	1	XYLENE (TOTAL)	16.090	
015	18003	718	V	26.080				
016	38048	411	V	28.659				
017	387415	52184	V	31.214	1	1,3-DICHLOROBENZENE	14.499	
018	369536	49692	V	31.633	1	1,4-DICHLOROBENZENE	16.609	
019	349635	41838	V	33.299	1	1,2-DICHLOROBENZENE	15.892	
020	40222	2457	V	36.590				
021	24575	649	V	37.622				
022	21534	509		39.358				

STD 8020

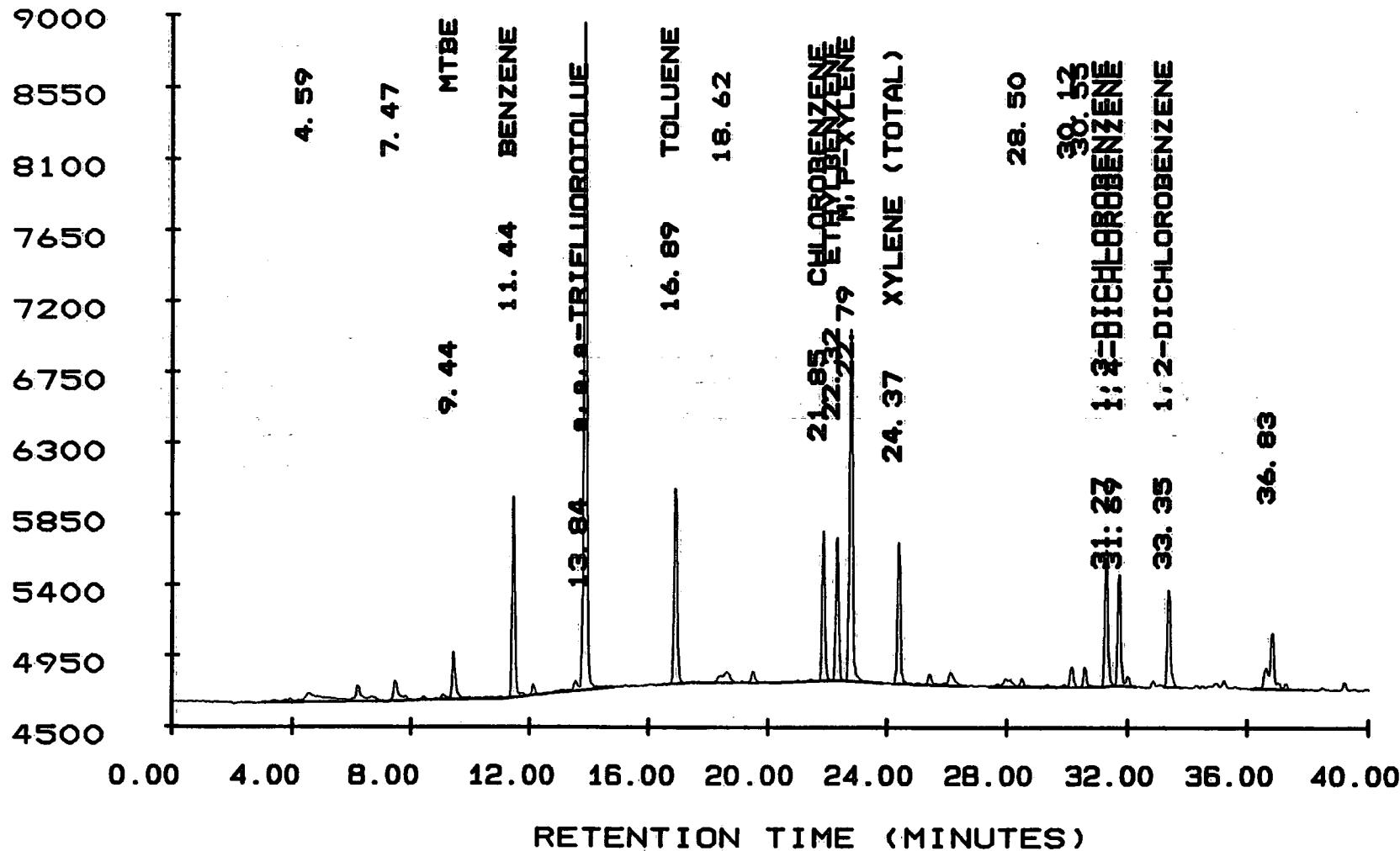
SAMPLE NO. : 03229411 . 01 DIL: 1. 0000 INSTRUMENT: 11

TEST NO. :

DATE TIME: 03/22/94 13:47:59

METHOD NO. : 11S / 11S

PAGE NO. : 01



Y MAXIMUM: 9000.
Y MINIMUM: 4500.

START TIME: 0. 00
END TIME: 40. 00

Roy F. Weston, Inc. - Gulf Coast Laboratories

03/22/94 14:28:17

EXTERNAL STANDARD

SAMPLE: 03229411 .01 INST:11 VIAL:F0 SEQ NUMBER:001
TEST : DATE-TIME INJECTED : 03/22/94 13:47:59
COLLECTION TIME : 40.01 DATE-TIME PROCESSED : 03/22/94 14:28:17
METHOD: 11S / 11S REV #: 00120 ANALYST: MANZANO SAMP RATE: 0.78
CLIENT ID: SAMPLE VOL:
CLIENT: COLUMN TYPE: RSL-160
LAB ID: STD 8020 RAW FILE: RAW1:CM446665
SAMPLE WT : % MOISTURE : DILUTION FACTOR : 1.0000

PK NO	PEAK AREA	PEAK HEIGHT	BL	RT MINUTES	GR #	COMPONENT NAME	HEIGHT CONC PPB
001	53921	565	V	4.589			
002	19412	1226	V	7.465			
003	33913	2855	V	9.441	1	MTBE	2.131
004	90928	12036	V	11.441	1	BENZENE	2.478
005	323937	40694	V	13.839	1	a,a,a-TRIFLUOROTOLUE	20.727
006	83795	11781	V	16.886	1	TOLUENE	2.842
007	28705	713	V	18.621			
008	68855	9107	V	21.855	1	CHLOROBENZENE	2.295
009	64230	8729	V	22.318	1	ETHYLBENZENE	2.446
010	163510	21387	V	22.794	1	M,P-XYLENE	5.411
011	87475	8644	V	24.367	1	XYLENE (TOTAL)	2.503
012	19182	535	V	28.501			
013	11748	1230	V	30.121			
014	11315	1208	V	30.553			
015	65050	8407	V	31.267	1	1,3-DICHLOROBENZENE	2.336
016	56537	6819	V	31.689	1	1,4-DICHLOROBENZENE	2.279
017	46171	5905	V	33.355	1	1,2-DICHLOROBENZENE	2.243
018	48682	3417		36.827			

8020 STD

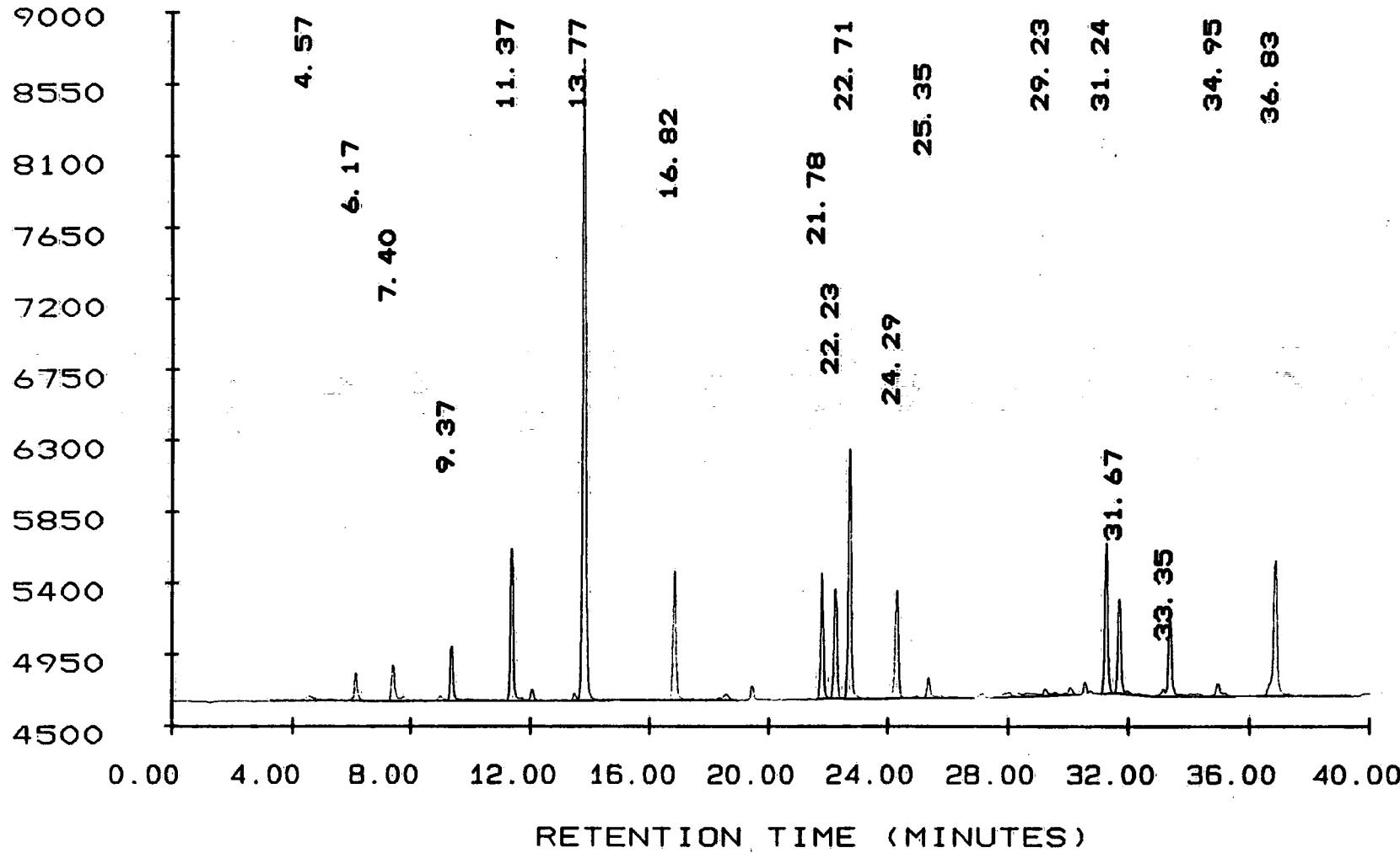
SAMPLE NO. : 03229411 . 12 DIL: 1. 0000 INSTRUMENT: 11

TEST NO. :

DATE TIME: 03/23/94 01:28:28

METHOD NO. : 11S / 11S

PAGE NO. : 01



Y MAXIMUM: 9000.
Y MINIMUM: 4500.

START TIME: 0. 00
END TIME: 40. 00

Roy F. Weston, Inc. - Gulf Coast Laboratories

03/23/94 02:08:46

EXTERNAL STANDARD

SAMPLE: 03229411 .12 INST:11 VIAL:F0 SEQ NUMBER:012
TEST : DATE-TIME INJECTED : 03/23/94 01:28:28
COLLECTION TIME : 40.01 DATE-TIME PROCESSED : 03/23/94 02:08:46
METHOD: 11S / 11S REV #: 00120 ANALYST: MANZANO SAMP RATE: 0.78
CLIENT ID: SAMPLE VOL:
CLIENT: COLUMN TYPE: RSL-160
LAB ID: 8020 STD RAW FILE: RAW1:CN446873
SAMPLE WT : % MOISTURE : DILUTION FACTOR : 1.0000

PK NO	PEAK AREA	PEAK HEIGHT	BL	RT MINUTES	GR #	COMPONENT NAME	HEIGHT CONC PPB
001	12457	289	V	4.575			
002	12775	1601	V	6.167			
003	24275	2160	V	7.403			
004	32566	3246	V	9.371	1	MTBE	2.423
005	76209	9121	V	11.371	1	BENZENE	1.878
006	307338	39129	V	13.765	1	a,a,a-TRIFLUOROTOLUE	19.930
007	66962	7770	V	16.815	1	TOLUENE	1.874
008	52838	7495	V	21.777	1	CHLOROBENZENE	1.889
009	48032	6669	V	22.234	1	ETHYLBENZENE	1.869
010	114526	15045	V	22.705	1	M,P-XYLENE	3.807
011	48785	6476	V	24.285	1	XYLENE (TOTAL)	1.875
012	17554	1239	V	25.351			
013	29432	431	V	29.233			
014	71309	9138	V	31.241	1	1,3-DICHLOROBENZENE	2.539
015	46132	5617	V	31.671	1	1,4-DICHLOROBENZENE	1.878
016	53375	4986	V	33.346	1	1,2-DICHLOROBENZENE	1.894
017	10547	786	V	34.946			
018	81498	8254		36.827			

8020 STD

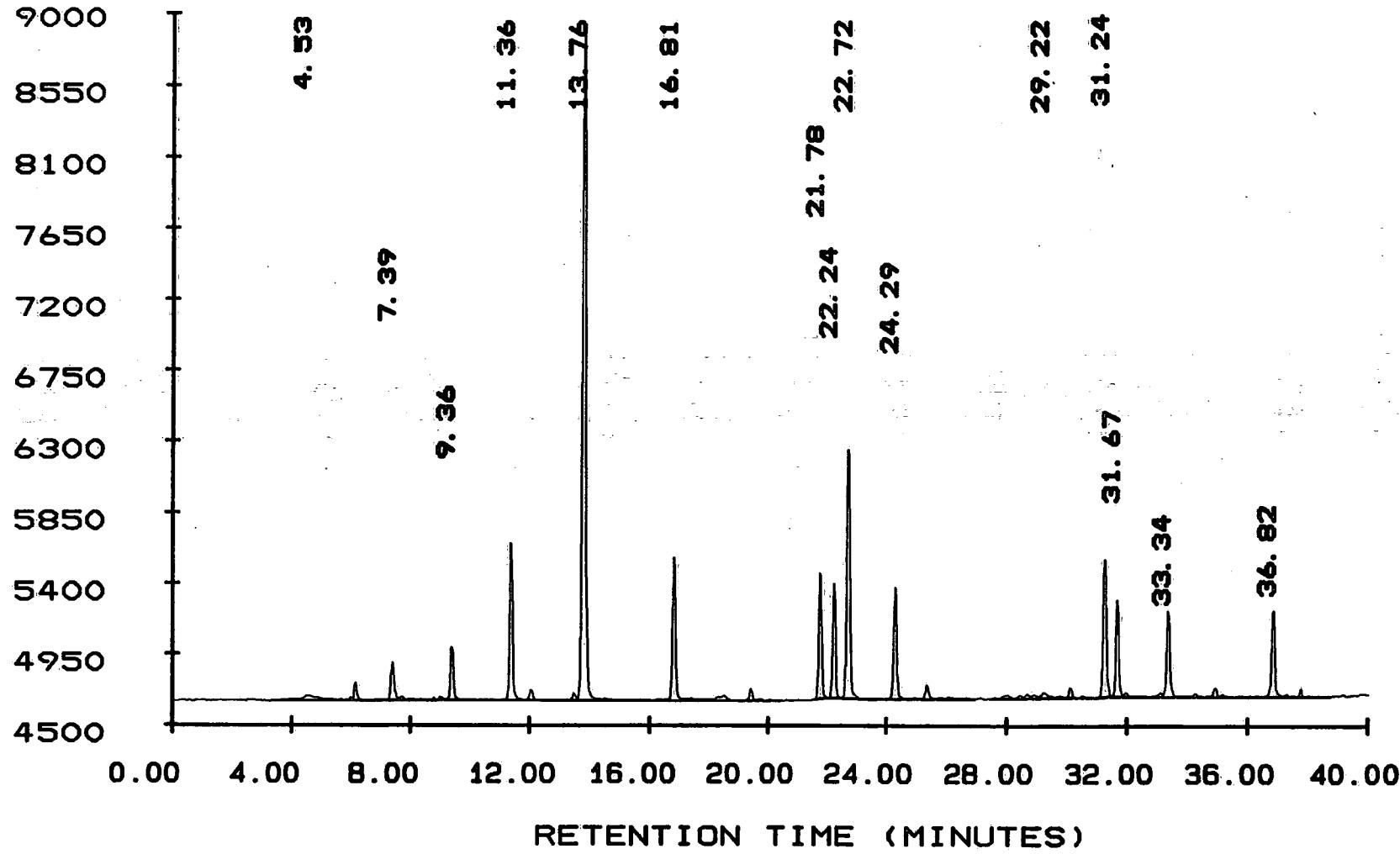
SAMPLE NO. : 03229411 . 13 DIL: 1. 0000 INSTRUMENT: 11

TEST NO. :

DATE TIME: 03/23/94 02:25:35

METHOD NO. : 11S / 11S

PAGE NO. : 01



Y MAXIMUM: 9000.
Y MINIMUM: 4500.

START TIME: 0. 00
END TIME: 40. 00

EXTERNAL STANDARD

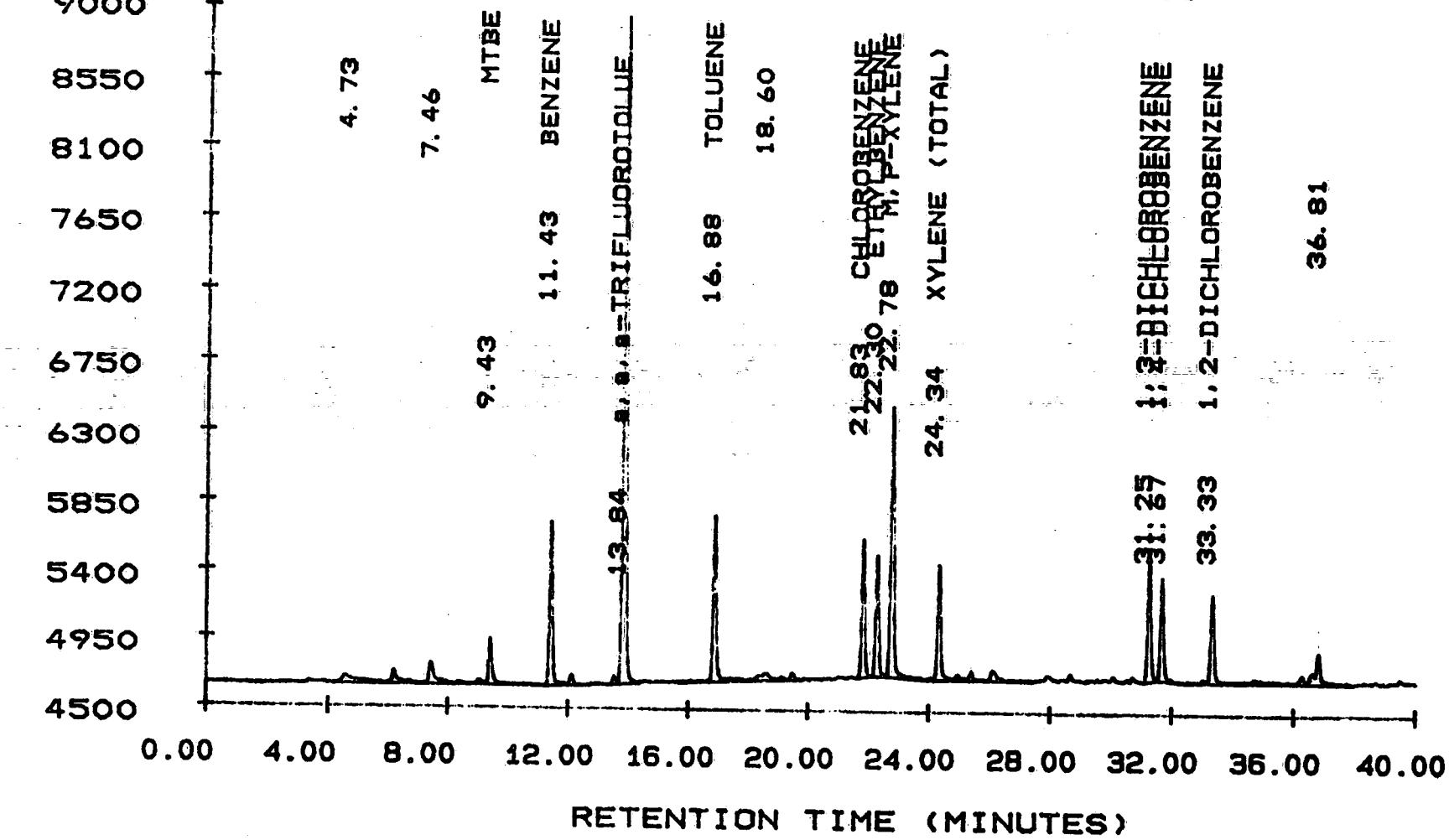
SAMPLE: 03229411 .13 INST:11 VIAL:F0 SEQ NUMBER:013
 TEST : DATE-TIME INJECTED : 03/23/94 02:25:35
 COLLECTION TIME : 40.01 DATE-TIME PROCESSED : 03/23/94 03:05:53
 METHOD: 11S / 11S REV #: 00120 ANALYST: MANZANO SAMP RATE: 0.78
 CLIENT ID: SAMPLE VOL:
 CLIENT: COLUMN TYPE: RSL-160
 LAB ID: 8020 STD RAW FILE: RAW1:CN446880
 SAMPLE WT : % MOISTURE : DILUTION FACTOR : 1.0000

PK NO	PEAK AREA	PEAK HEIGHT	BL	RT MINUTES	GR #	COMPONENT NAME	HEIGHT CONC PPB
001	27544	325	V	4.533			
002	26208	2286	V	7.392			
003	26170	3153	V	9.359	1	MTBE	2.354
004	73422	9441	V	11.362	1	BENZENE	1.944
005	328719	41305	V	13.764	1	a,a,a-TRIFLUOROTOLUE	21.038
006	87381	8622	V	16.807	1	TOLUENE	2.080
007	54214	7674	V	21.778	1	CHLOROBENZENE	1.934
008	49805	6906	V	22.239	1	ETHYLBENZENE	1.935
009	117722	15335	V	22.716	1	M,P-XYLENE	3.880
010	67767	6810	V	24.291	1	XYLENE (TOTAL)	1.972
011	31042	363	V	29.224			
012	65018	8380	V	31.242	1	1,3-DICHLOROBENZENE	2.328
013	47216	5868	V	31.669	1	1,4-DICHLOROBENZENE	1.961
014	60066	5214	V	33.343	1	1,2-DICHLOROBENZENE	1.981
015	52734	5273		36.824			

STD 8020

SAMPLE NO. : 03229411 . 19 DIL: 1. 0000 INSTRUMENT: 11

TEST NO. :

METHOD NO. : 11S / 11S
9000DATE TIME: 03/23/94 09:15:18
PAGE NO.: 01

Y MAXIMUM: 9000.

Y MINIMUM: 4500.

START TIME: 0. 00
END TIME: 40. 00

EXTERNAL STANDARD

SAMPLE: 03229411 .19
 TEST :
 COLLECTION TIME : 40.01
 METHOD: 11S / 11S REV #: 00120 ANALYST: KIMO SAMP RATE: 0.78
 CLIENT ID:
 CLIENT:
 LAB ID: STD 8020
 SAMPLE WT : % MOISTURE :
 INST:11 VIAL:FO SEQ NUMBER:019
 DATE-TIME INJECTED : 03/23/94 09:15:18
 DATE-TIME PROCESSED : 03/23/94 09:55:35
 SAMPLE VOL:
 COLUMN TYPE: RSL-160
 RAW FILE: RAW1:CN446921
 DILUTION FACTOR : 1.0000

PK NO	PEAK AREA	PEAK HEIGHT	BL	RT MINUTES	GR #	COMPONENT NAME	HEIGHT CONC PPB
001	30311	252	V	4.725			
002	19928	1310	V	7.459			
003	30336	2884	V	9.433	1	MTBE	2.153
004	79117	10109	V	11.430	1	BENZENE	2.081
005	313389	41108	V	13.836	1	a,a,a-TRIFLUOROTOLUE	20.938
006	83967	10467	V	16.878	1	TOLUENE	2.525
007	18002	427	V	18.597			
008	62002	8632	V	21.834	1	CHLOROBENZENE	2.175
009	55821	7626	V	22.299	1	ETHYLBENZENE	2.137
010	133262	17004	V	22.776	1	M,P-XYLENE	4.303
011	80758	7372	V	24.340	1	XYLENE (TOTAL)	2.135
012	58714	7661	V	31.249	1	1,3-DICHLOROBENZENE	2.129
013	50151	6472	V	31.669	1	1,4-DICHLOROBENZENE	2.163
014	58774	5651	V	33.334	1	1,2-DICHLOROBENZENE	2.147
015	32666	1925		36.807			

8020 STD

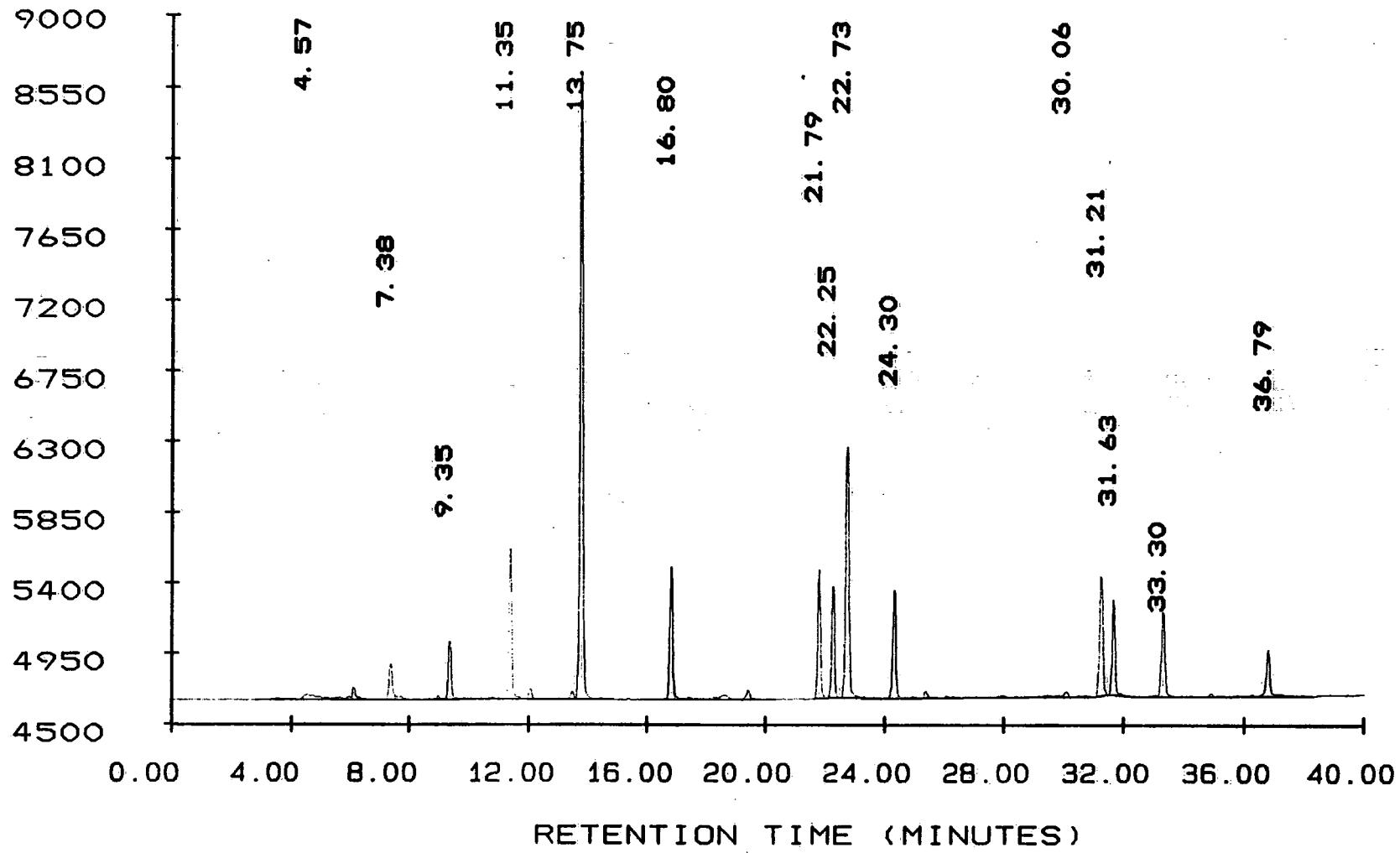
SAMPLE NO. : 03229411 . 30 DIL: 1. 0000 INSTRUMENT: 11

TEST NO. :

DATE TIME: 03/23/94 21:41:27

METHOD NO. : 11S / 11S

PAGE NO. : 01



Y MAXIMUM: 9000.
Y MINIMUM: 4500.

START TIME: 0. 00
END TIME: 40. 00

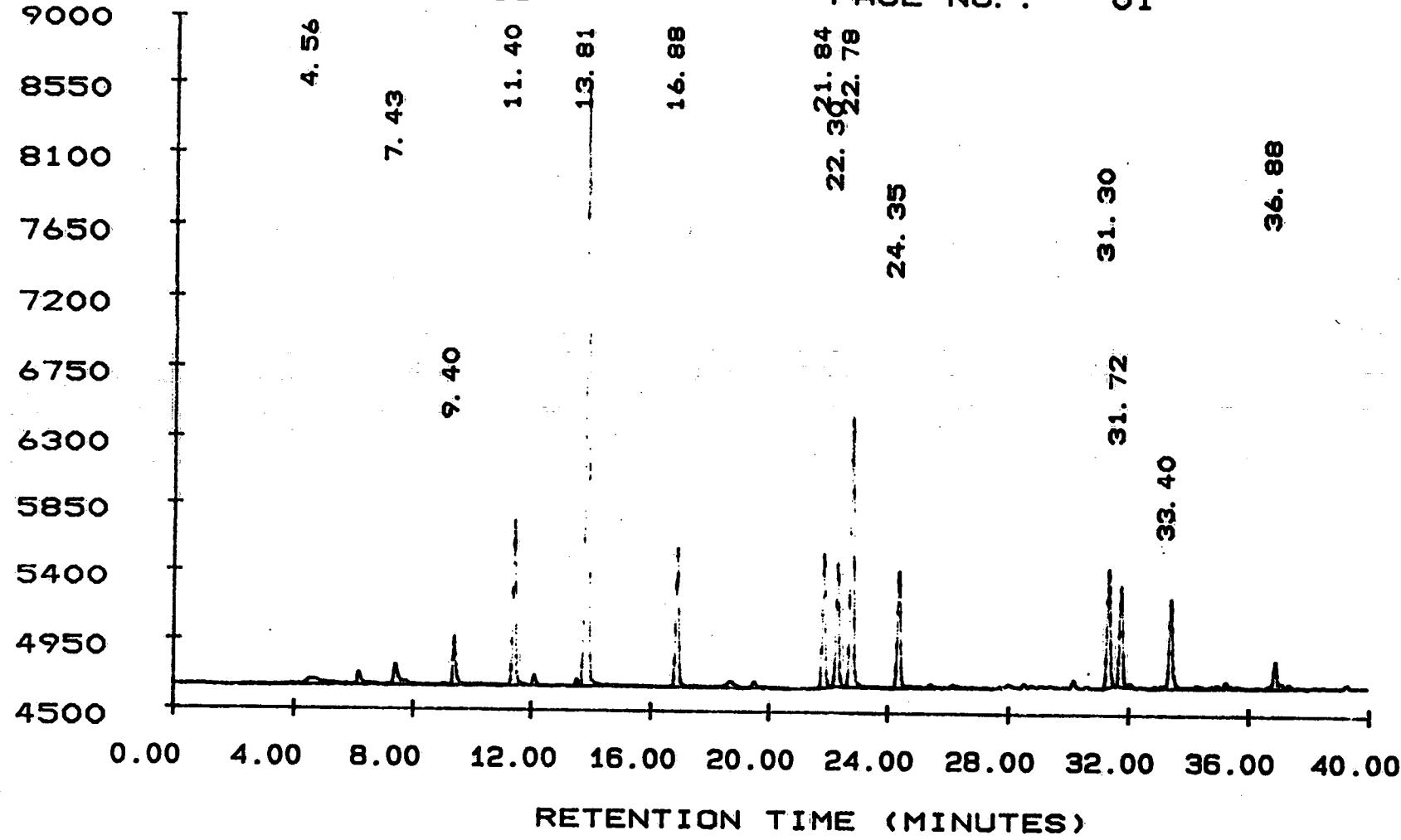
EXTERNAL STANDARD

SAMPLE: 03229411 .30 INST:11 VIAL:F0 SEQ NUMBER:030
 TEST : DATE-TIME INJECTED : 03/23/94 21:41:27
 COLLECTION TIME : 40.01 DATE-TIME PROCESSED : 03/23/94 22:21:44
 METHOD: 11S / 11S REV #: 00120 ANALYST: MANZANO SAMP RATE: 0.78
 CLIENT ID: SAMPLE VOL:
 CLIENT: COLUMN TYPE: RSL-160
 LAB ID: 8020 STD RAW FILE: RAW1:CN447212
 SAMPLE WT : % MOISTURE : DILUTION FACTOR : 1.0000

PK NO	PEAK AREA	PEAK HEIGHT	BL	RT MINUTES	GR #	COMPONENT NAME	HEIGHT CONC PPB
001	30258	331	V	4.571			
002	22492	2193	V	7.377			
003	27444	3529	V	9.352	1	MTBE	2.634
004	75356	9131	V	11.353	1	BENZENE	1.880
005	299590	38380	V	13.752	1	a,a,a-TRIFLUOROTOLUE	19.549
006	79622	7994	V	16.804	1	TOLUENE	1.928
007	54895	7773	V	21.788	1	CHLOROBENZENE	1.959
008	49536	6793	V	22.249	1	ETHYLBENZENE	1.904
009	119334	15498	V	22.725	1	M,P-XYLENE	3.921
010	59520	6606	V	24.297	1	XYLENE (TOTAL)	1.913
011	18505	335	V	30.063			
012	56858	7303	V	31.211	1	1,3-DICHLOROBENZENE	2.029
013	45869	5847	V	31.632	1	1,4-DICHLOROBENZENE	1.954
014	49709	5171	V	33.300	1	1,2-DICHLOROBENZENE	1.964
015	32252	2847		36.785			

8020 STD

SAMPLE NO. : 03229411 . 31 DIL: 1. 0000 INSTRUMENT: 11
TEST NO. :
METHOD NO. : 11S / 11S DATE TIME: 03/23/94 22:49:19
9000 PAGE NO. : 01



Y MAXIMUM: 9000.
Y MINIMUM: 4500.

START TIME: 0. 00
END TIME: 40. 00

EXTERNAL STANDARD

SAMPLE: 03229411 .31
 TEST :
 COLLECTION TIME : 39.90
 METHOD: 11S / 11S REV #: 00120 ANALYST: MANZANO SAMP RATE: 0.78
 CLIENT ID:
 CLIENT:
 LAB ID: 8020 STD
 SAMPLE WT : % MOISTURE :
 INST:11 VIAL:F0 SEQ NUMBER:031
 DATE-TIME INJECTED : 03/23/94 22:49:19
 DATE-TIME PROCESSED : 03/23/94 23:29:41
 SAMPLE VOL:
 COLUMN TYPE: RSL-160
 RAW FILE: RAW1:CN447241
 DILUTION FACTOR : 1.0000

PK NO	PEAK AREA	PEAK HEIGHT	BL	RT MINUTES	GR #	COMPONENT NAME	HEIGHT CONC	PPB
001	34483	407	V	4.560				
002	21185	1302	V	7.427				
003	26718	2921	V	9.401	1	MTBE	2.181	
004	79462	10130	V	11.404	1	BENZENE	2.086	
005	305097	37850	V	13.805	1	a,a,a-TRIFLUOROTOLUE	19.279	
006	83664	8660	V	16.879	1	TOLUENE	2.089	
007	59353	8351	V	21.840	1	CHLOROBENZENE	2.104	
008	56384	7848	V	22.303	1	ETHYLBENZENE	2.199	
009	129190	17099	V	22.779	1	M,P-XYLENE	4.327	
010	66610	7314	V	24.352	1	XYLENE (TOTAL)	2.118	
011	55737	7435	V	31.302	1	1,3-DICHLOROBENZENE	2.066	
012	49253	6261	V	31.724	1	1,4-DICHLOROBENZENE	2.093	
013	64990	5617	V	33.396	1	1,2-DICHLOROBENZENE	2.134	
014	21675	1671		36.881				

V. Raw Quality Control Data Package

- A. Blank data**
 - 1. Results summary (Form 1)
 - 2. Chromatograms/quant reports - primary column
- B. Matrix spike data**
 - 1. Results summary
 - 2. Chromatograms - primary column
- C. Run Log Summary**

GC VOLATILES SHEET

CLIENT SAMPLE NO.

Lab Name: Roy F. Weston, Inc. Work Order: 06720-013-001-0

BLK

Client: L.E. CarpenterMatrix: WATERLab Sample ID: 94GVD088-MB1Sample wt/vol: 5.0 (g/mL) MLLab File ID: CN446886Level: (low/med) LOWDate Received: 03/22/94

% Moisture: not dec.

Date Analyzed: 03/23/94Column: (pack/cap) CAPDilution Factor: 1.0

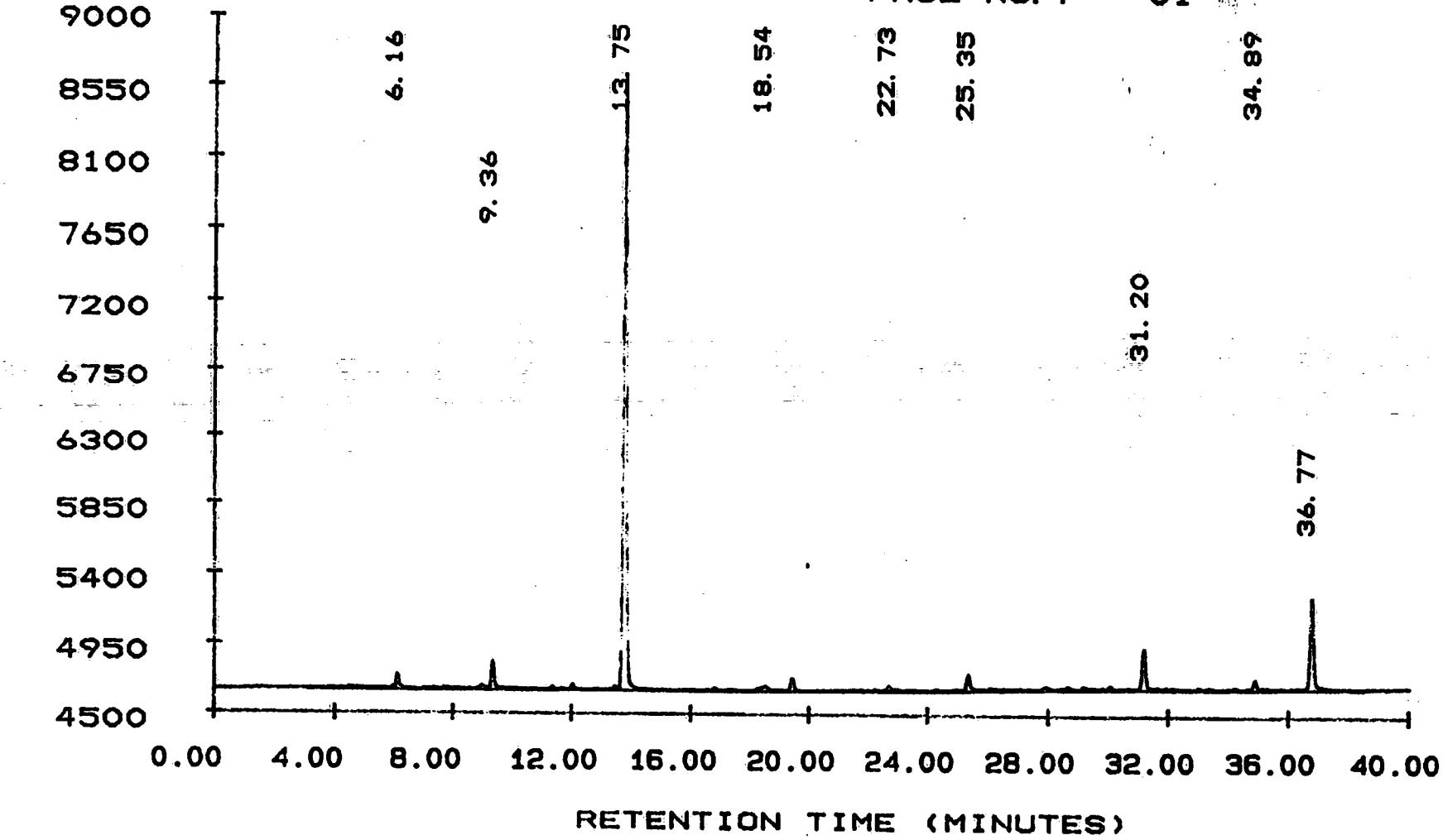
CONCENTRATION UNITS:

(ug/L or ug/Kg) ug/L

CAS NO.	COMPOUND		
71-43-2-----	Benzene	1.0	U
108-88-3-----	Toluene	1.0	U
100-41-4-----	Ethylbenzene	1.0	U
1330-20-7-----	Xylene (Total)	2.0	U

12/88 Rev.

SAMPLE NO. : 03229411 . 14 DIL: 1. 0000 INSTRUMENT: 11
TEST NO. :
METHOD NO. : 11S / 11S DATE TIME: 03/23/94 03:22:45
PAGE NO. : 01



Roy F. Weston, Inc. - Gulf Coast Laboratories

03/23/94 04:03:01

EXTERNAL STANDARD

SAMPLE: 03229411 .14

INST:11 VIAL:F0 SEQ NUMBER:014

TEST :

DATE-TIME INJECTED : 03/23/94 03:22:45

COLLECTION TIME : 40.01

DATE-TIME PROCESSED : 03/23/94 04:03:01

METHOD: 11S / 11S REV #: 00120

ANALYST: MANZANO SAMP RATE: 0.78

CLIENT ID:

SAMPLE VOL:

CLIENT:

COLUMN TYPE: RSL-160

LAB ID: BLANK

RAW FILE: RAW1:CN446886

SAMPLE WT :

% MOISTURE :

DILUTION FACTOR : 1.0000

PK NO	PEAK AREA	PEAK HEIGHT	BL	RT MINUTES	GR #	COMPONENT NAME	HEIGHT CONC PPB
001	20254	895	V	6.158			
002	32422	1661	V	9.361	1	MTBE	1.240
				11.445	1	BENZENE	
003	306880	38179	V	13.754	1	a,a,a-TRIFLUOROTOLUÈ	19.446
				16.884	1	TOLUENE	
004	16182	317	V	18.539			
				21.845	1	CHLOROBENZENE	
005	12239	288	V	22.733	1	M,P-XYLENE	0.073
				24.337	1	XYLENE (TOTAL)	
006	36147	980	V	25.350			
007	32706	2499	V	31.197	1	1,3-DICHLOROBENZENE	0.694
				31.681	1	1,4-DICHLOROBENZENE	
008	11397	600	V	34.891			
009	51580	5636		36.773			

Shallowed

GC VOLATILES SHEET

CLIENT SAMPLE NO.

Lab Name: Roy F. Weston, Inc. Work Order: 06720-013-001-0

MW-15SMS

Client: L.E. CarpenterMatrix: WATERLab Sample ID: 9403L806-003 MSSample wt/vol: 5.0 (g/mL) MLLab File ID: CN447042Level: (low/med) LOWDate Received: 03/12/94% Moisture: not dec. Date Analyzed: 03/23/94Column: (pack/cap) CAPDilution Factor: 1.0

CONCENTRATION UNITS:

(ug/L or ug/Kg) ug/L

<u>71-43-2-----Benzene</u>		S
<u>108-88-3-----Toluene</u>		S
<u>100-41-4-----Ethylbenzene</u>		S
<u>1330-20-7-----Xylene (Total)</u>		S

S: SPIKE COMPOUND

12/88 Rev.

9403L806-003S

SAMPLE NO. : 03229411 . 24 DIL: 1. 0000 INSTRUMENT: 11

TEST NO. :

DATE TIME: 03/23/94 14:27:40

METHOD NO. : 11S / 11S

PAGE NO. : 01

9000

8550

8100

7650

7200

6750

6300

5850

5400

4950

4500

6.12

11.33

12.73

16.80

19.43

22.74 22.27

24.32

25.38

27.94

30.14

35.00

3636.090

0.00 4.00 8.00 12.00 16.00 20.00 24.00 28.00 32.00 36.00 40.00

RETENTION TIME (MINUTES)

Y MAXIMUM: 9000.

START TIME: 0. 00

Y MINIMUM: 4500.

END TIME: 40. 00

EXTERNAL STANDARD

SAMPLE: 03229411 .24

TEST : 08020

COLLECTION TIME : 40.01

METHOD: 11S / 11S

REV #: 00120

CLIENT ID: MW-15S

CLIENT: L.E. Carpenter

LAB ID: 9403L806-003MS

SAMPLE WT :

% MOISTURE :

INST:11 VIAL:FO SEQ NUMBER:024

DATE-TIME INJECTED : 03/23/94 14:27:40

DATE-TIME PROCESSED : 03/23/94 15:07:55

SAMP RATE: 0.78

SAMPLE VOL:

COLUMN TYPE: RSL-160

RAW FILE: RAW1:CN447042

DILUTION FACTOR : 1.0000

PK NO	PEAK AREA	PEAK HEIGHT	BL	RT MINUTES	GR #	COMPONENT NAME	HEIGHT CONC PPB
001	11034	919	V	6.122			
002	25918	3810	V	9.322	1	MTBE	2.844
003	107638	13735	V	11.328	1	BENZENE	2.828
004	318311	39806	V	13.734	1	a,a,a-TRIFLUOROTOLUE	20.275
005	92224	11853	V	16.798	1	TOLUENE	2.859
006	16498	2111	V	19.428			
				21.845	1	CHLOROBENZENE	
007	74222	10228	V	22.267	1	ETHYLBENZENE	2.866
008	58449	7678	V	22.743	1	M,P-XYLENE	1.943
009	29228	3061	V	24.320	1	XYLENE (TOTAL)	0.887
010	23469	2178	V	25.375			
011	14234	419	V	27.936			
012	15434	942	V	30.138			
013	33162	4208	V	31.259	1	1,3-DICHLOROBENZENE	
				31.269	1	1,4-DICHLOROBENZENE	1.407
				33.342	1	1,2-DICHLOROBENZENE	
014	20847	797	V	35.003			
015	23162	2941	V	36.703			
016	39222	6581		36.895			

2.83

GC VOLATILES SHEET

Lab Name: Roy F. Weston, Inc. Work Order: 06720-013-001-0MW-15SMSDClient: L.E. CarpenterMatrix: WATERLab Sample ID: 9403L806-003 MSDSample wt/vol: 5.0 (g/mL) MLLab File ID: CN447060Level: (low/med) LOWDate Received: 03/12/94

% Moisture: not dec.

Date Analyzed: 03/23/94Column: (pack/cap) CAPDilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>ug/L</u>	
71-43-2-----	Benzene		S
108-88-3-----	Toluene		S
100-41-4-----	Ethylbenzene		S
1330-20-7-----	Xylene (Total)		

S: SPIKE COMPOUND

12/88 Rev.

9403L806-003T

SAMPLE NO. :

03229411 . 25 DIL: 1. 0000 INSTRUMENT: 11

TEST NO. :

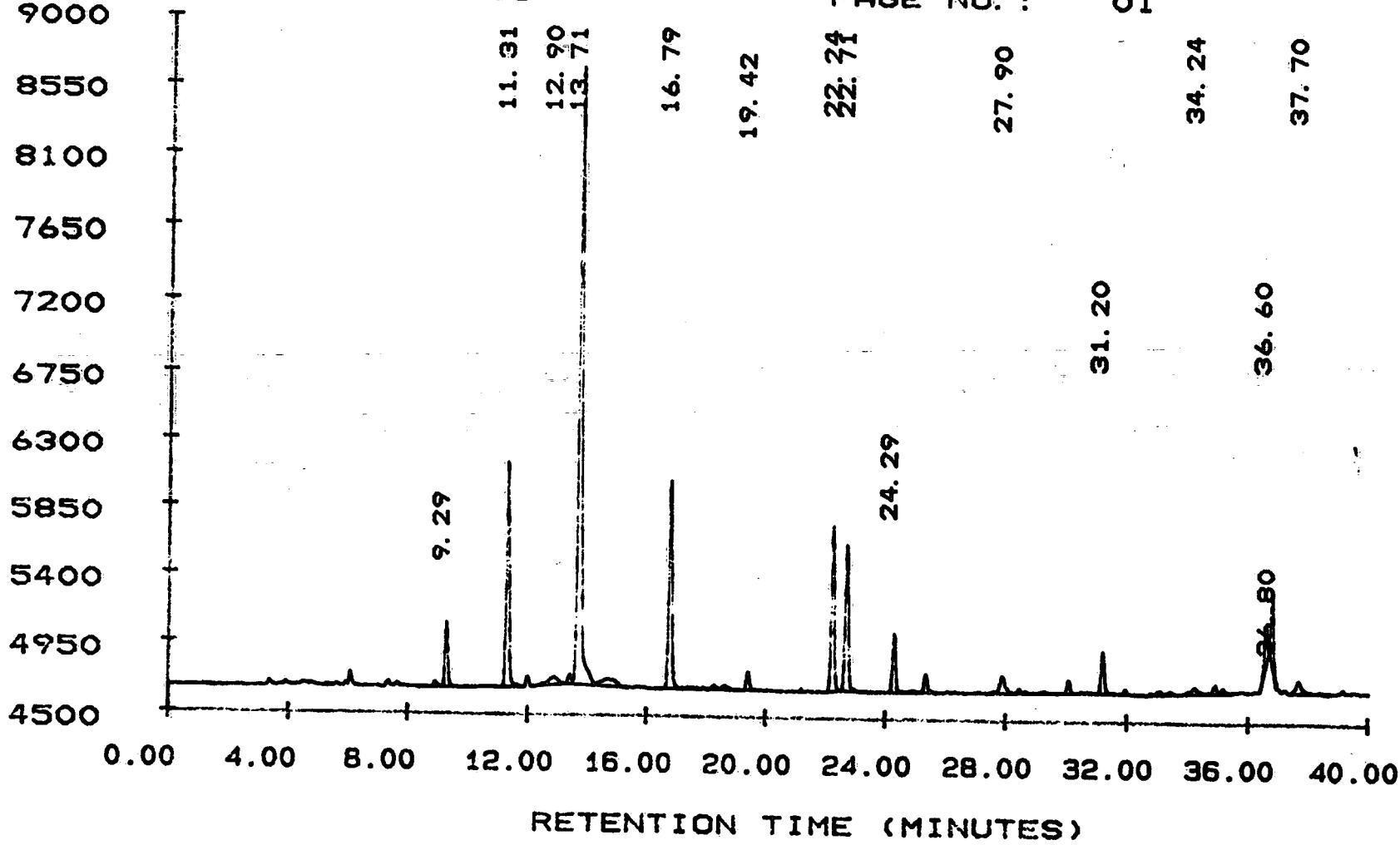
METHOD NO. :

11S / 11S

DATE TIME: 03/23/94 15:14:52

PAGE NO. :

01



Y MAXIMUM: 9000.
Y MINIMUM: 4500.

START TIME: 0. 00
END TIME: 40. 00

03/23/94 15:55:09

EXTERNAL STANDARD

SAMPLE: 03229411 .25

TEST : 08020

COLLECTION TIME : 40.01

METHOD: 11S / 11S REV #: 00120

CLIENT ID: MW-15S

CLIENT: L.E. Carpenter

LAB ID: 9403L806-003MSD

SAMPLE WT :

% MOISTURE :

INST:11 VIAL:F0 SEQ NUMBER:025

DATE-TIME INJECTED : 03/23/94 15:14:52

DATE-TIME PROCESSED : 03/23/94 15:55:09

ANALYST: KIMO SAMP RATE: 0.78

SAMPLE VOL:

COLUMN TYPE: RSL-160

RAW FILE: RAW1:CN447060

DILUTION FACTOR : 1.0000

PK NO	PEAK AREA	PEAK HEIGHT	BL RT MINUTES	GR #	COMPONENT NAME	HEIGHT	CONC
							PPB
001	30914	3868	V 9.293				
			9.443	1	MTBE		
002	100464	13962	V 11.307	1	BENZENE	2.875	
003	12647	507	V 12.901				
004	340250	38626	V 13.707	1	a,a,a-TRIFLUOROTOLUE	19.674	
005	106192	12955	V 16.795	1	TOLUENE	3.125	
006	10278	1134	V 19.416				
			21.845	1	CHLOROBENZENE		
007	74900	10411	V 22.240	1	ETHYLBENZENE	2.918	
008	68880	9160	V 22.708	1	M,P-XYLENE	2.318	
009	39974	3546	V 24.292	1	XYLENE (TOTAL)	1.027	3.388
010	28370	1055	V 27.899				
011	25160	2544	V 31.202	1	1,3-DICHLOROBENZENE	0.707	3.345
			31.681	1	1,4-DICHLOROBENZENE		TP
			33.342	1	1,2-DICHLOROBENZENE		4111/1A4
012	24090	421	V 34.236				
013	20029	2537	V 36.605				
014	25922	4414	V 36.796				
015	13830	777	V 37.696				

GC VOLATILES SHEET

CLIENT SAMPLE NO.

BLKMS

Lab Name: Roy F. Weston, Inc. Work Order: 06720-013-001-0Client: L.E. CarpenterMatrix: WATERLab Sample ID: 94GVD088-MB1 BSSample wt/vol: 5.0 (g/mL) MLLab File ID: CN447113Level: (low/med) LOWDate Received: 03/22/94% Moisture: not dec. Date Analyzed: 03/23/94Column: (pack/cap) CAPDilution Factor: 1.0

CONCENTRATION UNITS:

(ug/L or ug/Kg) ug/L

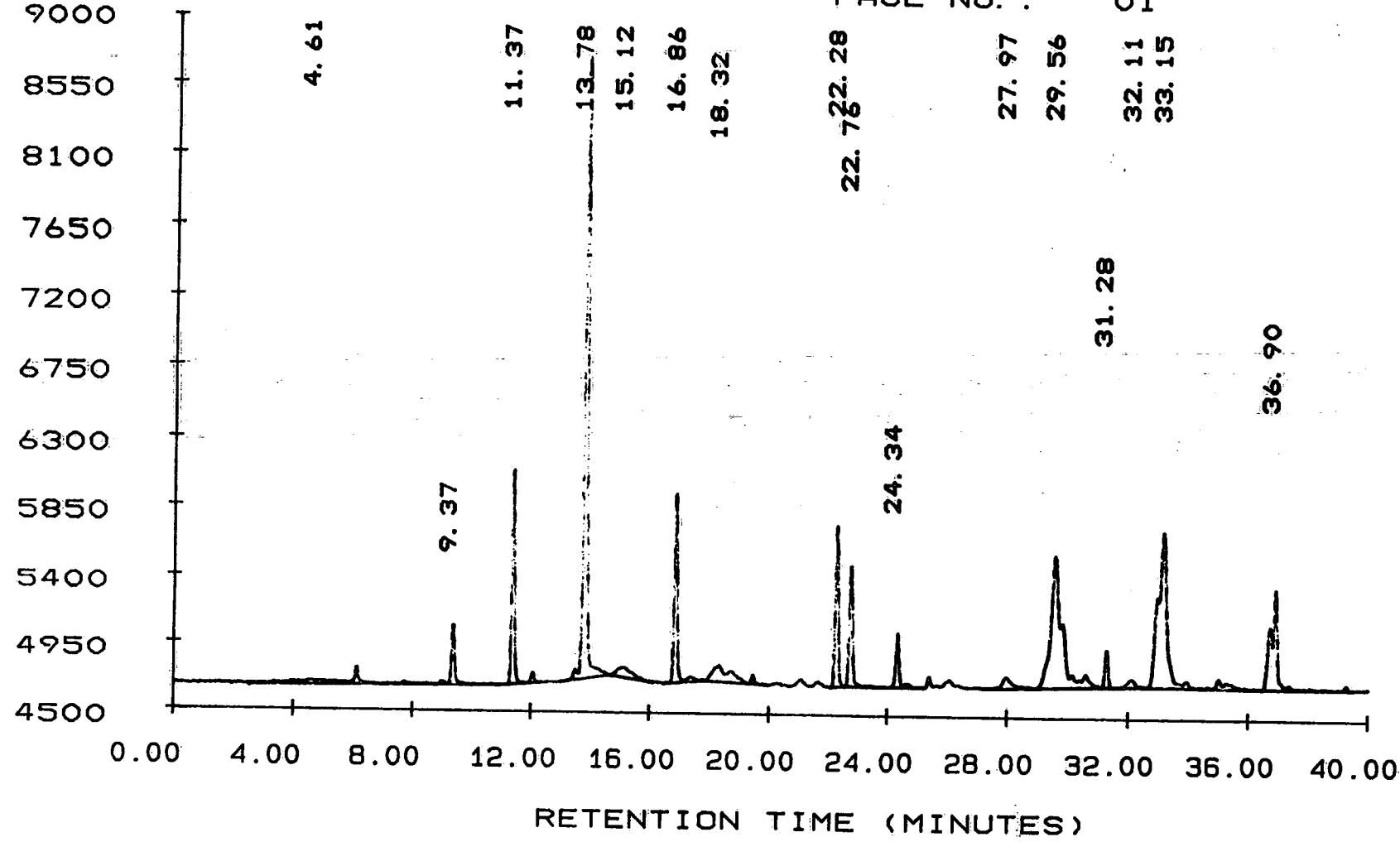
CAS NO.	COMPOUND	S
71-43-2-----	Benzene	
108-88-3-----	Toluene	
100-41-4-----	Ethylbenzene	
1330-20-7-----	Xylene (Total)	

S: SPIKE COMPOUND

12/88 Rev.

44600088 MBIS
SPKE BLANK DUP ^{SUR}
~~3/23/94~~

SAMPLE NO.: 03229411 . 27 DIL: 1. 0000 INSTRUMENT: 11
TEST NO.:
METHOD NO.: 11S / 11S DATE TIME: 03/23/94 17: 13: 42
9000 PAGE NO.: 01



Y MAXIMUM: 9000.
Y MINIMUM: 4500.

START TIME: 0. 00
END TIME: 40. 00

EXTERNAL STANDARD

SAMPLE: 03229411 .27
 TEST :
 COLLECTION TIME : 40.01
 METHOD: 11S / 11S REV #: 00120 ANALYST: KIMO SAMP RATE: 0.78
 CLIENT ID:
 CLIENT:
 LAB ID: SPKE BLANK D
 SAMPLE WT : % MOISTURE :
 INST:11 VIAL:FO SEQ NUMBER:027
 DATE-TIME INJECTED : 03/23/94 17:13:42
 DATE-TIME PROCESSED : 03/23/94 17:53:51
 SAMPLE VOL:
 COLUMN TYPE: RSL-160
 RAW FILE: RAW1:CN447113
 DILUTION FACTOR : 1.0000

PK NO	PEAK AREA	PEAK HEIGHT	BL RT MINUTES	GR #	COMPONENT NAME	HEIGHT CONC PPB
001	47313	289	V 4.610			
002	42149	3791	V 9.366	1	MTBE	2.830
003	99418	13418	V 11.374	1	BENZENE	2.763
004	327728	38706	V 13.779	1	a,a,a-TRIFLUOROTOLUE	19.714
005	25872	701	V 15.122			
006	93337	12057	V 16.860	1	TOLUENE	2.909
007	51415	1127	V 18.315			
			21.845	1	CHLOROBENZENE	
008	75213	10268	V 22.279	1	ETHYL BENZENE	2.878
009	62298	7862	V 22.757	1	M,P-XYLENE	1.989
010	32722	3497	V 24.337	1	XYLENE (TOTAL)	1.013
011	19980	772	V 27.970			
012	232813	8756	V 29.563			
			31.259	1	1,3-DICHLOROBENZENE	
013	18158	2403	V 31.279	1	1,4-DICHLOROBENZENE	0.803
014	10699	547	V 32.113			
015	233089	10282	V 33.148	1	1,2-DICHLOROBENZENE	3.906
016	109166	6482	36.899			

SURVEY CHAP
03.25.94

GC VOLATILES SHEET

CLIENT SAMPLE NO.

Lab Name: Roy F. Weston, Inc. Work Order: 06720-013-001-0

BLKMSD

Client: L.E. CarpenterMatrix: WATERLab Sample ID: 94GVD088-MB1 BSDSample wt/vol: 5.0 (g/mL) MLLab File ID: CN447141Level: (low/med) LOWDate Received: 03/22/94% Moisture: not dec. Date Analyzed: 03/23/94Column: (pack/cap) CAPDilution Factor: 1.0

CAS NO.

COMPOUND

CONCENTRATION UNITS:

(ug/L or ug/Kg) ug/L

71-43-2-----Benzene

S

108-88-3-----Toluene

S

100-41-4-----Ethylbenzene

S

1330-20-7-----Xylene (Total)

S

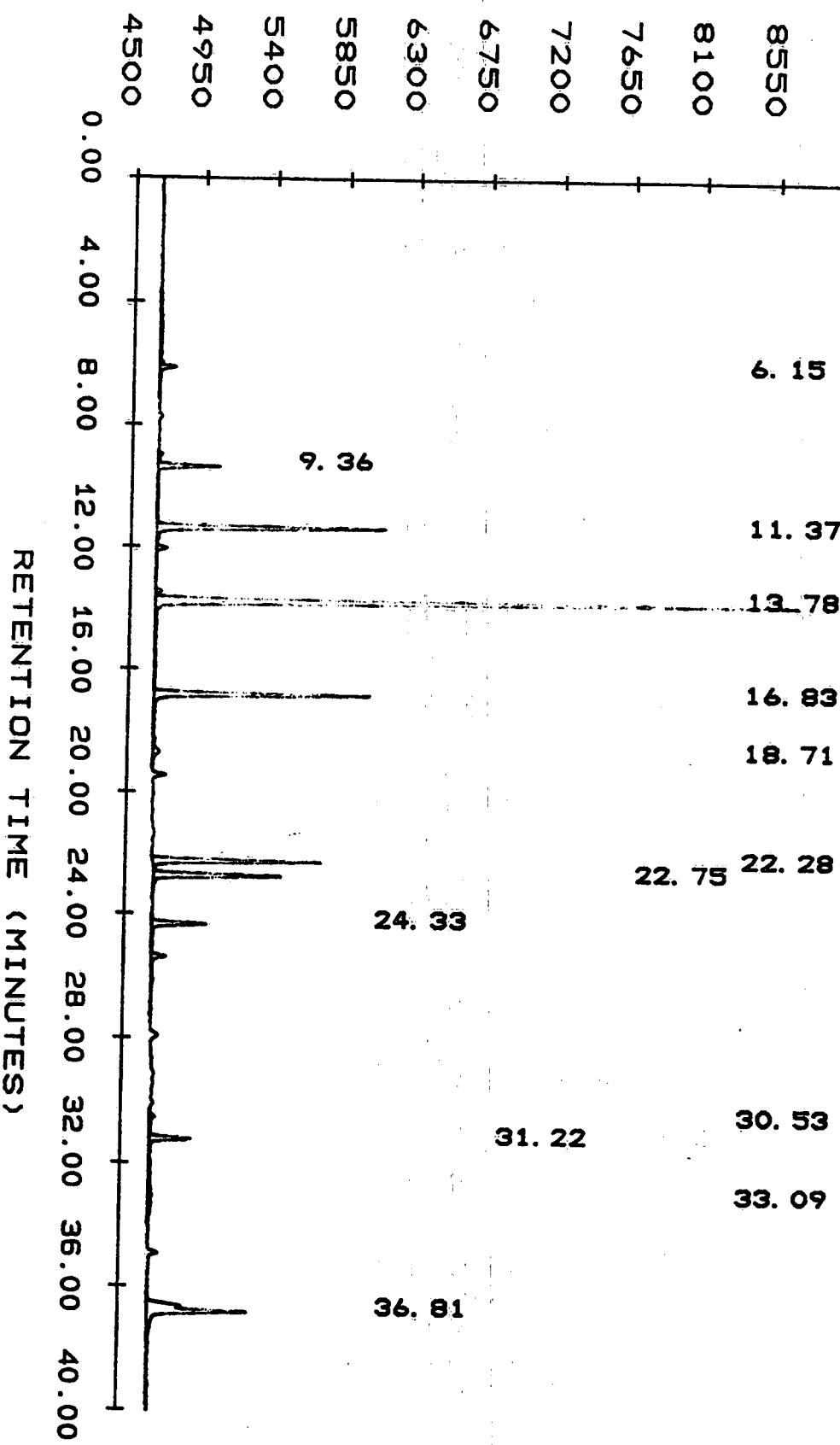
S: SPIKE COMPOUND

12/88 Rev.

CHROMATOGRAPHIC DATA 3/23/94

76

SAMPLE NO. : 03229411 . 28 DIL: 1. 0000 INSTRUMENT: 11
TEST NO. : DATE TIME: 03/23/94 18:11:17
METHOD NO. : 11S / 11S PAGE NO.: 01
9000



Roy F. Weston, Inc. - Gulf Coast Laboratories

03/23/94 18:51:32

EXTERNAL STANDARD

SAMPLE: 03229411 .28 INST:11 VIAL:FO SEQ NUMBER:028
TEST : DATE-TIME INJECTED : 03/23/94 18:11:17
COLLECTION TIME : 40.01 DATE-TIME PROCESSED : 03/23/94 18:51:32
METHOD: 11S / 11S REV #: 00120 ANALYST: KIMO SAMP RATE: 0.78
CLIENT ID: SAMPLE VOL:
CLIENT: COLUMN TYPE: RSL-160
LAB ID: RAW FILE: RAW1:CN447141
SAMPLE WT : % MOISTURE : DILUTION FACTOR : 1.0000

PK NO	PEAK AREA	PEAK HEIGHT	BL	RT MINUTES	GR #	COMPONENT NAME	HEIGHT CONC PPB
001	24016	971	V	6.152			
002	31936	3795	V	9.364	1	MTBE	2.833
003	108094	13695	V	11.368	1	BENZENE	2.820
004	308488	38855	V	13.784	1	a,a,a-TRIFLUOROTOLUE	19.791
005	96369	12920	V	16.831	1	TOLUENE	3.117
006	9770	424	V	18.711			
				21.845	1	CHLOROBENZENE	
007	73808	10186	V	22.277	1	ETHYLBENZENE	2.855
008	56840	7687	V	22.752	1	M,P-XYLENE	1.945
009	39330	3269	V	24.327	1	XYLENE (TOTAL)	0.947
010	3357	302	V	30.527			
011	20421	2476	V	31.222	1	1,4-DICHLOROBENZENE	0.828
				31.259	1	1,3-DICHLOROBENZENE	
				31.681	1	1,4-DICHLOROBENZENE	
012	14531	255	V	33.088	1	1,2-DICHLOROBENZENE	0.097
013	84383	6095		36.812			

21/01/1994

Weston-Gulf Coast Laboratories, Inc.
GC VOA Analysis Log
Tracor 565 PID Detector (Purge & Trap): Instrument 11

Analyst: John Morgan Date: 3/15/94
 Queue: 03159411 Method: 115 Column: DB-1
 Temp. Program:

REP #	Sample Description	D.F.	Final Volume	Injection Date/Time	Comments
01	STANDARD		3ml/5ml	3/15/94 115	8020 + 6025urr
02			1ml/5ml	1437	
03			3ml/5ml	1534	
04			5ml/5ml	1632	
05			8ml/5ml	1729	
06			10ml/5ml	1826	
07			1ml/5ml	3/16/94 0729	
08			5ml/5ml	0826	
09			1ml/5ml	1325	
10			1ml/5ml	1435	
11	Blank	1	3ml/5ml	1605	6025urr
12	94036803-001	1	5ml	1703	
13	-002	1		1800	
14	-003	1		1858	
15	↓ -004	1	↓	1955	
16	94036665-001	1	5.1837g	2115	
17	↓ -002	1	5.5105g	2212	
18	94036732-001	1	5ml	2309	
19	↓ -002	1		3/17/94 0007	
20	↓ -003	1	↓	0104	
21	STANDARD	1	3ml/5ml	0201	8020 + 6025urr
22	↓	1		0958	
23	Blank STANDARD	1	↓ 1ml/5ml	1123	8020 + 6025urr
24	94036732-001		5ml		

Reviewed: Linda J Mackley Date: 3-22-94
 3/21/94

Weston-Gulf Coast Laboratories, Inc.
GC VOA Analysis Log
Tracor 565 PID Detector (Purge & Trap): Instrument 11

Analyst:	<u>Linda J Mackley</u>	Date:	<u>3/16/94</u>		
Queue:	<u>03159411</u>	Method:	<u>115</u>		
Temp. Program:		Column:	<u>DB124</u>		
REP #	Sample Description	D.F.	Final Volume		
REP #	Sample Description	D.F.	Final Volume	Injection Date/Time	Comments
25	94036732-001S		5ml		P.B Spike + 602surr
26	↓ -001T		5ml	3/16/94	↓
24	Standard	1	3ul/5ml	3/16/94 1243	8020 + 602surr
25	Blank			1523	602surr
26	94036625-001	1	5.4030	1645	
27	↓ -002	1	5.2187	1733	
28	94036624-001	1	5.4397	1831	
29	↓ -002 ^{31/16/94}		5.2911	1928	offm 3/16/94
30	94024732-001	1	5ml	1908 3025	3m 3/16/94
31	↓ -002	1	5ml	2025	
32	↓ -003	10	500ul/5ml	2125	
33	↓ -003	50	100ul/5ml	2222	↓
34	Standard	1	3ul/5ml	2319	8020 + 602surr
35	↓	1	↓	3/16/94 0017	↓
36	Blank	1	↓	0114	602surr
37	94026732-004	1	5ml	0211	
38	94036624-001	1	5.4593	0309	
39	↓ -03 ^{31/16/94}		5.5036	0406	↓
40	Standard	1	20ul/5ml	0934	8020 Std 602surr
41	Blank	1	3ul/5ml	1058	602surr
42	94036732-003	200	25ul/5ml	1156	602surr
43	94036624-003S	1	5.4897	1308	P.B Spike + 602
44	-003T	1	5.2679	1405	
45	SP Blank	1	3ul/5ml	1503	↓

Reviewed: Linda J Mackley Date: 3.22.94

Weston-Gulf Coast Laboratories, Inc.
 GC VOA Analysis Log
 Tracor 565 PID Detector (Purge & Trap): Instrument 11

Analyst:	<u>Zhou</u>	Date:	<u>3/18/94</u>		
Queue:	<u>03159411</u>	Method:	<u>115</u>		
Temp. Program:		Column:	<u>D3624</u>		
REP #	Sample Description	D.F.	Final Volume		
46	SP Blank Dup	1	3 ml/5ml	3-18-94	1600 P.B. spike + 602 surr
47	94036624-001	1	5.6996g	1653	602 surr
48	↓ -003	1	5.3798g	1755	602 surr
49	94036624-003J	1	5.0200g	2020	P.B. spike + 602
50	-003T	1	5.2359g	2117	↓
51	Standard	1	3 ml/5ml	2215	8020 + 602
52	Standard	1	↓	2312	8020 + 602
53	Blank	1	↓	3-19-94 0009	602
54	94036732-001J	1	5ml	0107	P.B. spike + 602
55	-001T	1	5ml	0204	↓
56	SP Blank	1	3 ml/5ml	0301	↓
57	SP Blank Dup	1	↓	0358	↓
58	94036624-001	1	5.3940	1913	
59	-002	1	5.5756	2010	
60	-001S	1	5.2260	2107	
61	↓ -001T	1	5.8218	2205	
62	Standard	1	3 ml/5ml	2302	8020 Std
63	↓	1	↓	2359	↓
64	Blank				
65	94036624-008				
66	94036624-001				
67	94036624-002				
68	SP Blank	1	3 ml/5ml	3-19-94 0057	
69	SP Blank Dup	1	↓	↓	0154

Reviewed: Linda S Mackley

Date: 3-22-94

80

Weston-Gulf Coast Laboratories, Inc.
GC VOA Analysis Log
Tracor 565 PID Detector (Purge & Trap): Instrument 11

Analyst:	<u>John M. Carman</u>		Date:	<u>3/20/94</u>
Queue:	<u>63159411</u>		Method:	<u>TIS</u>
Temp. Program:			Column:	<u>DB1624</u>
REP #	Sample Description	D.F.	Final Volume	Injection Date/Time
66	Blank	1	5ml	3-20-94 0351 6025vr
67	94036803-028	1	5ml	0349 6025rr
68	STandard	1	3ml/5ml	1905 8020 + 6025rr
69	Blank	1	5ml	2112 6025vr
70	94036803-001	1	5ml	2229
71	-002	1	5ml	2326
72	-003	100	50ml/5ml	3-21-94 0024
73	-004	200	25ml/5ml	0122
74	-005	100	5ml/5ml	0419
75	-006	50	100ml/5ml	0317
76	-007	1	5ml	0414
77	-008	1	5ml	0512
78	↓ -009	1	5ml	0609 ↓
79	Standard	1	3ml/5ml	1905 8020 6025vr
80	Blank	1	3ml/5ml	0934 6025vr
81	SP Blank	1	5ml	1041c PBEX SP 1232-6A-A + 1002 SURR
82	SP Blank Dup	1		1144
83	SP Blank Dup	1		1247 PBSP + 6025vr
84	94036732-003	1	5ml	3-21-94 1345 602
85	Blank			1442 602
86	94036803-005	5	1ml/5ml	1540
87	-006	1	5ml	1638
88	-008	10	500ml/5ml	1725
89	↓ -009	10	500ml/5ml	1833 ↓

Reviewed: Bunda Date: 4-8-94

Weston-Gulf Coast Laboratories, Inc.
GC VOA Analysis Log
Tracor 565 PID Detector (Purge & Trap): Instrument 11

Analyst:	K. L. Martin	Date:	3-22-94
Queue:	031594-PP	Method:	115
Temp. Program:		Column:	DRI/24
REP #	Sample Description	D.F.	Final Volume
90	Standard		3ul/5ml
91	↓		↓
92	Blank	↓	↓
93	9403L88-010	1	5ml
93	-0085	10	500ul/5ml
94	-008T	10	↓
95	Spike Blank	1	3ul/5ml
96	Spike Blank dup	1	↓
97	Standard	↓	↓

Continuing Process 03229411

1	Standard	3ul/5ml	3/22/94	1232-67-A
2	Blank	3ul/5ml	1347	8020 Std 6025 UFR
3	9403L803-003	50	100ul/5ml	1653
4	-004	1000	5ul/5ml	1750
5	-005	10	500ul/5ml	1847
6	-0085	10	500ul/5ml	1945 BTEx sys k + 602
7	↓ -008T	10	500ul/5ml	2042
8	SP. Blank	1	3ul/5ml	2139
9	SP. Blank dup	1	3ul/5ml	2236
10	9403L806-001	1	5ml	2334 602
11	↓ -002	1	5ml	3-23-94 0031 ↓
12	Standard	3ul/5ml	0128	8020 + 602
13	Standard	3ul/5ml	0225	↓

Reviewed: Bruce J. Pyle Date: 4-8-94

Weston-Gulf Coast Laboratories, Inc.
GC VOA Analysis Log
Tracor 565 PID Detector (Purge & Trap): Instrument 11

Analyst:	Buda Mangano		Date:	3/22/94
Queue:	03129411		Column:	D81024
Temp. Program:				
REP #	Sample Description	D.F.	Final Volume	Injection Date/Time
14	Blank		3ml/5ml	3-23-94 0322
19	8020 Abd		↓	0915 1232-67-A 6025vr
20	94036810-C03	1	5ml	1043 6025rd
21	-004	1	5ml	1140
22	-005	1	5ml	1238
23	-006	1	5ml	1336
24	-003S	1	5ml	1127 BTEX spike +
25	↓ -003T	1	5ml	1514 ↓
26	94036803-010	1	5ml mixt	1615
27	Spike blank	1	3ml/5ml	1718 BTEX Spike +
28	↓ dup	1	3ml/5ml	1811 ↓
29	94036806-004	25	200μl/5ml	2044 ↓
30	8020 STD		3ml/5ml	2141 1232-67-A + 6025vr
31	8020 STD		↓	2249 ↓
32	Blank		↓	2346 6025vr
33	94036810-001	1	5.3911	3-24-94 0043
34	-002	1	5.735C	0140
35	-003	1	0.8641	0237
36	-004	1	0.915Y	0334
37	-005	1	5.4845	0431
38	-006	1	5ml	0528
39	-007	1	5ml	0625
40	-008	1	5ml	0722
41	-003 S00	500	5.2174g/10ml 10ml/5ml	0957 ↓

Reviewed: Buda Mangano Date: 4-8 94

Extraction Date: 03/23/94
Test Code: 080d0

WESTON-Gulf Coast, Inc.
GC/VOA Extraction Record

OP No. 21-21G-1610

Page #: 1 31
Batch #: 946U0088
Analyst Initials: Ski
Method #: P&T
Matrix: water

Comments:

-Surrogate: 602 Sur Volume: 3ml Book # / Standard #: 1232-165-A
SB/MS Solution: BTEX SPINE Volume: 3ml Book # / Standard #: 1232-169-A
Analyst Signature: Stay of Howatas Date: 03/25/94
Reviewer Signature: Linda J Mackley Date: 4-14-94

Analyst signature: Stray of Kowalski

Analyst Signature: *[Signature]* **Date:** *[Date]* **Book # / Standard #:** *123-1A-A*

Analyst signature: Stacey L. Kowalik Book # / Standard #: 123d-109-A

Dates: 03/25/94

Reviewer Signatures: Linda MacL.

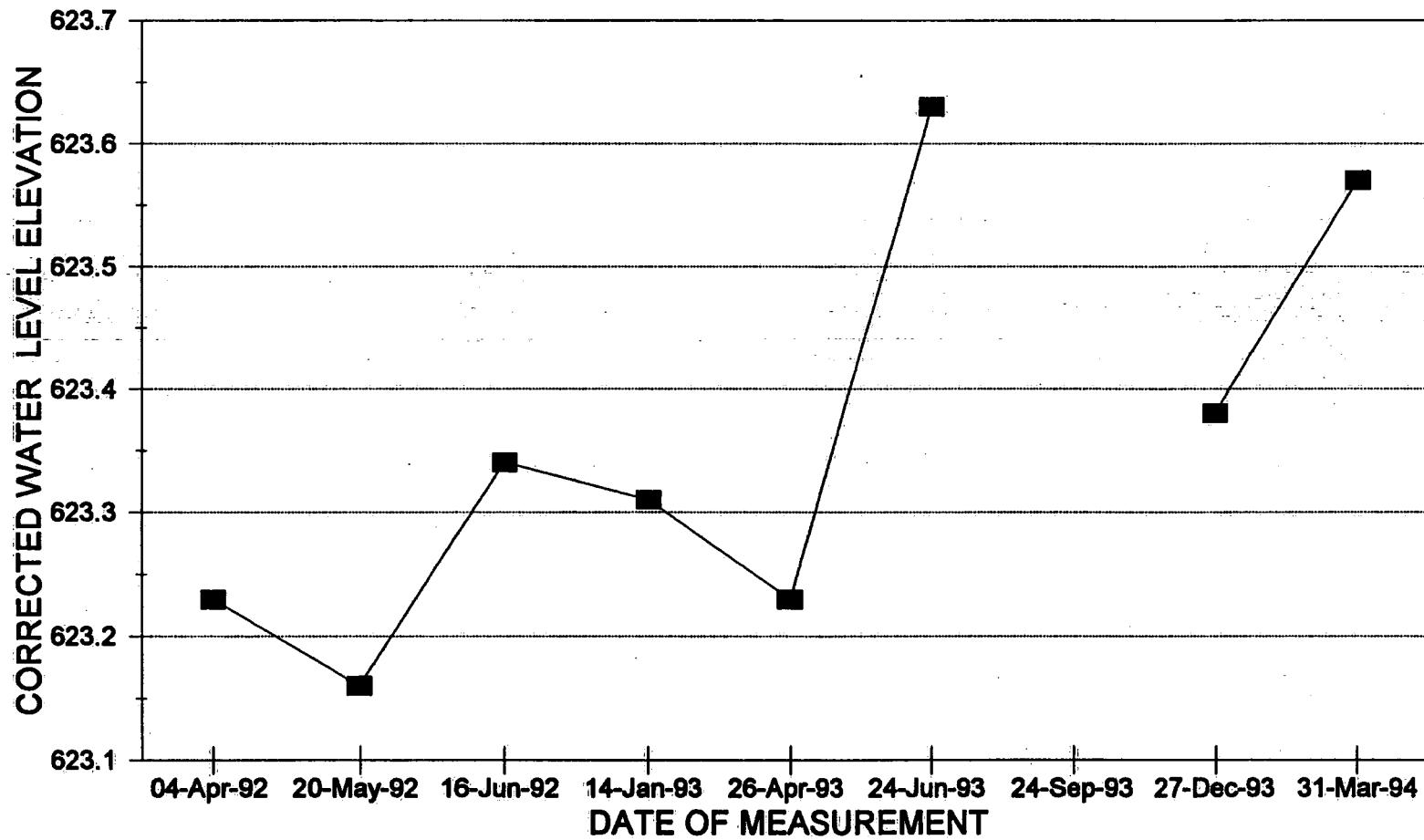
Date: 4-14-94

Extraction Custody Record

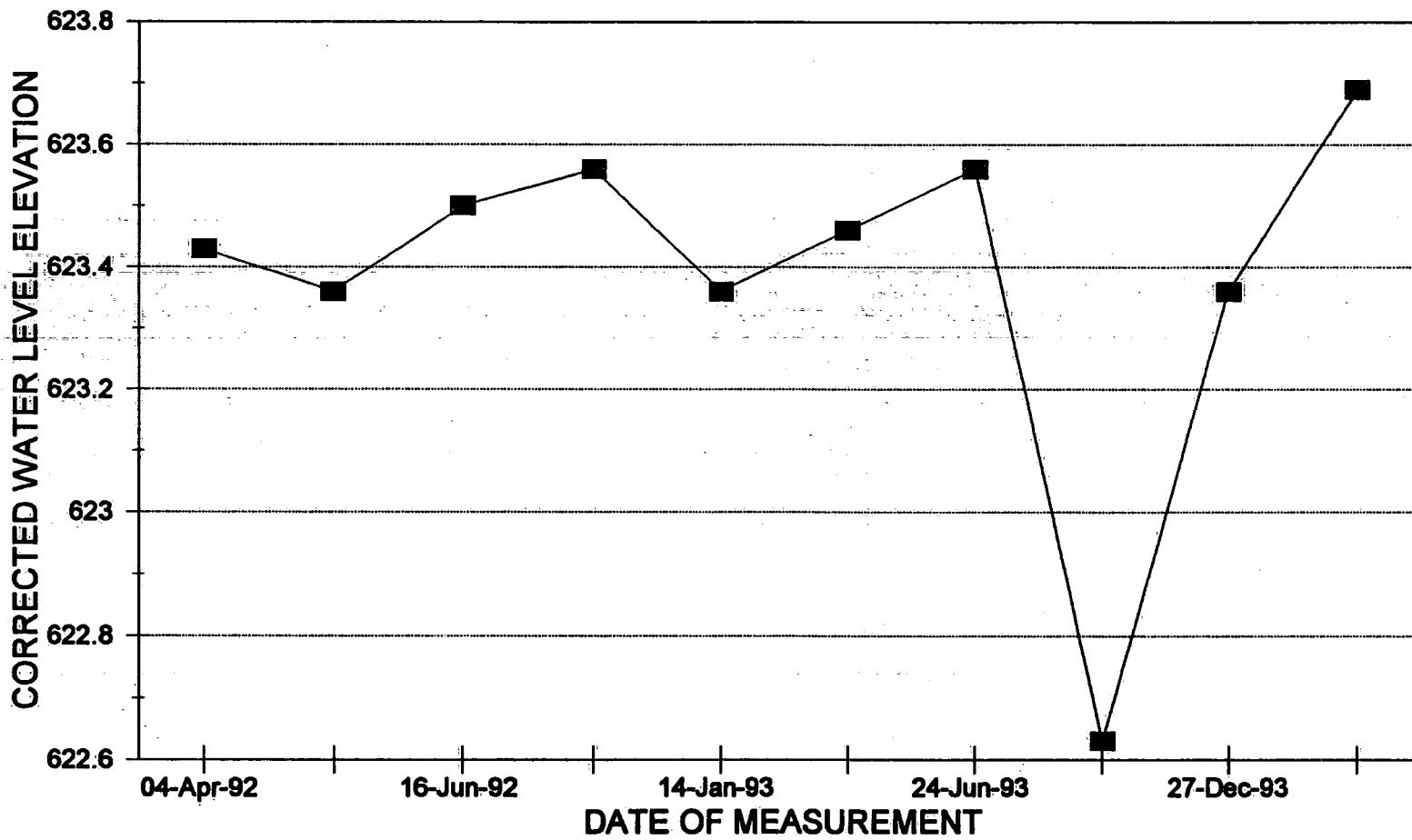
Transferred	Relinquished By	Date	Time	Received By	Date	Time	Reason for Transfer

APPENDIX D
HYDROGRAPHS FOR SELECTED MONITORING POINTS

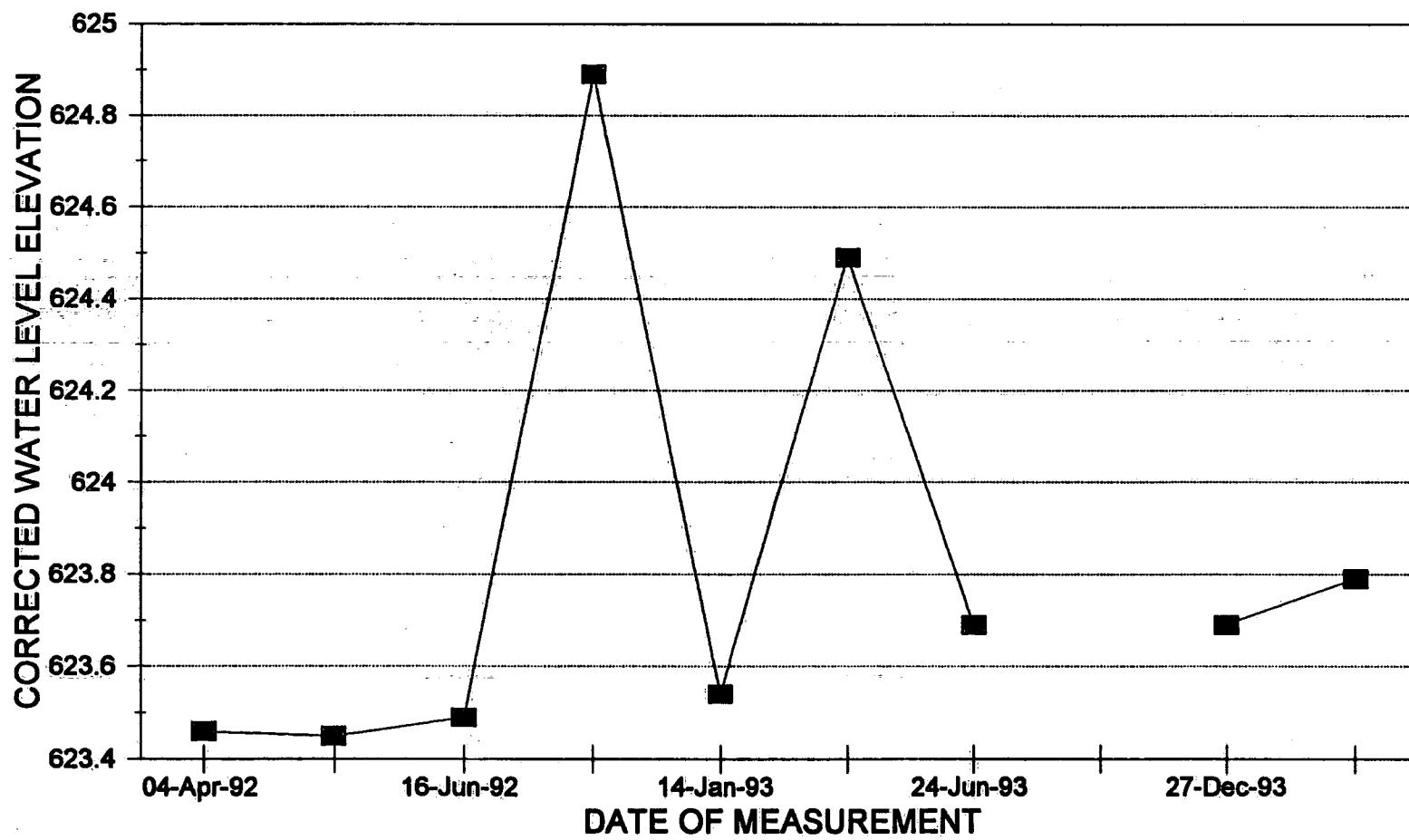
HYDROGRAPH (DC-P0)
(FIRST QUARTER 1992 TO PRESENT)



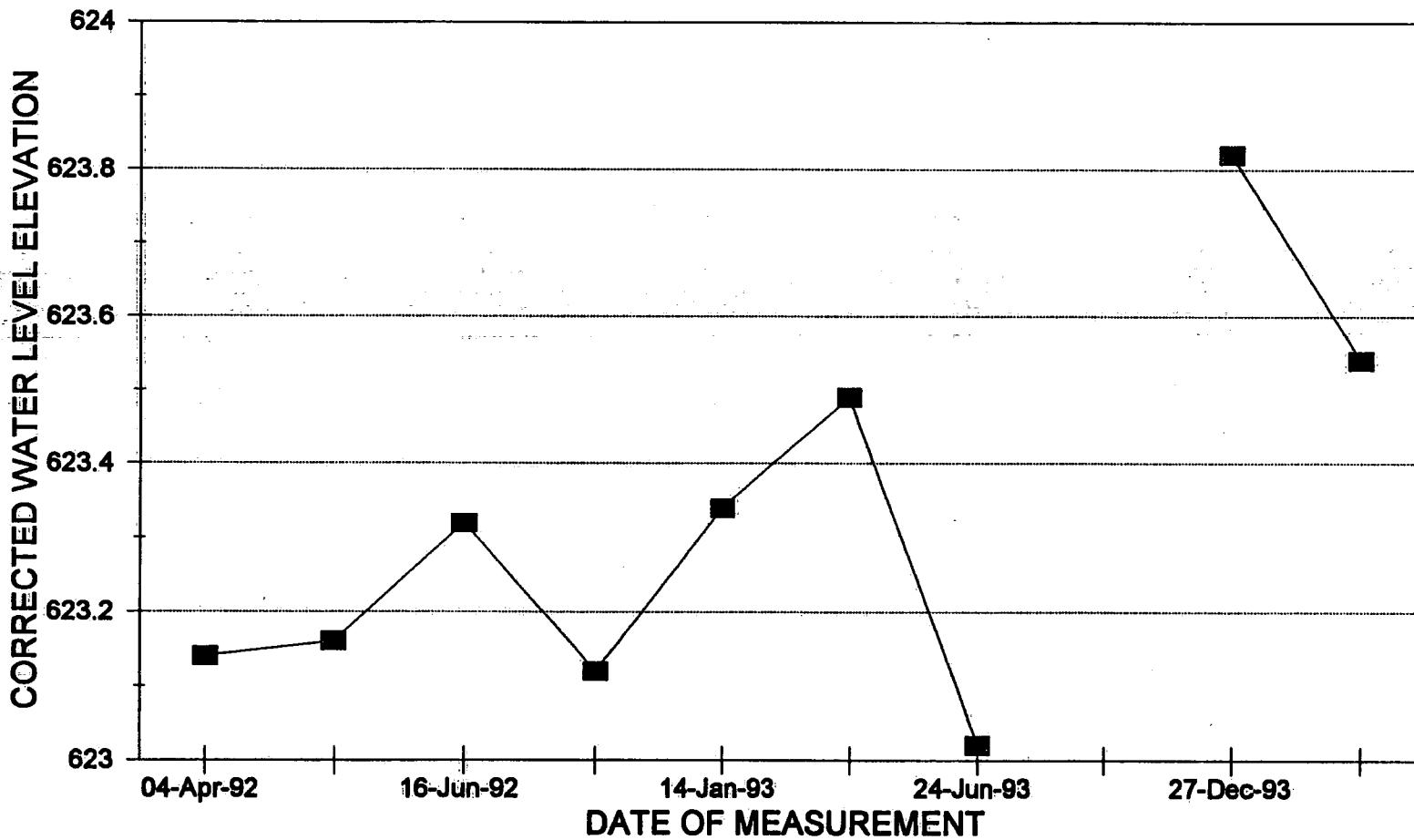
HYDROGRAPH (DC-P1)
(FIRST QUARTER 1992 TO PRESENT)



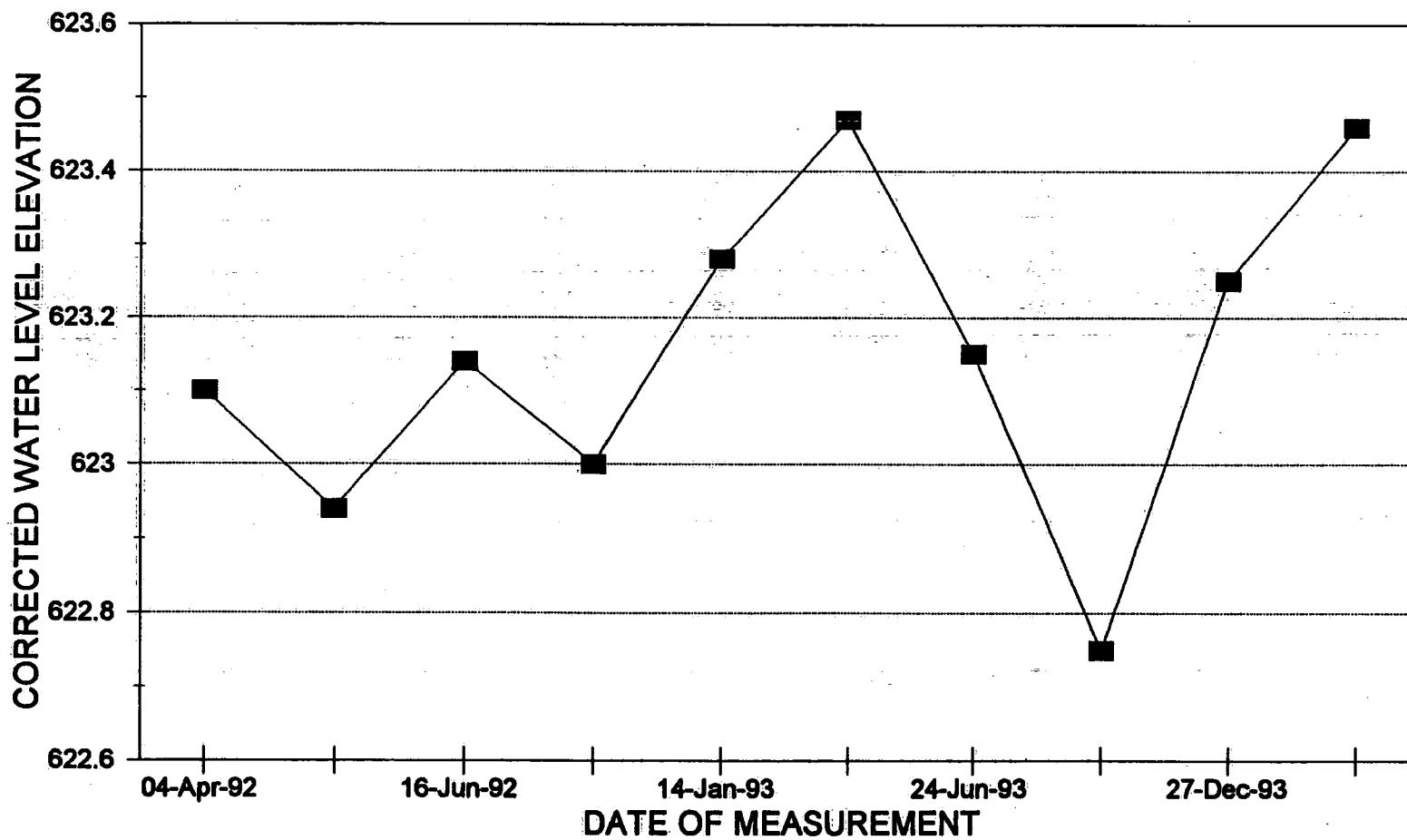
HYDROGRAPH (DC-P2)
(FIRST QUARTER 1992 TO PRESENT)



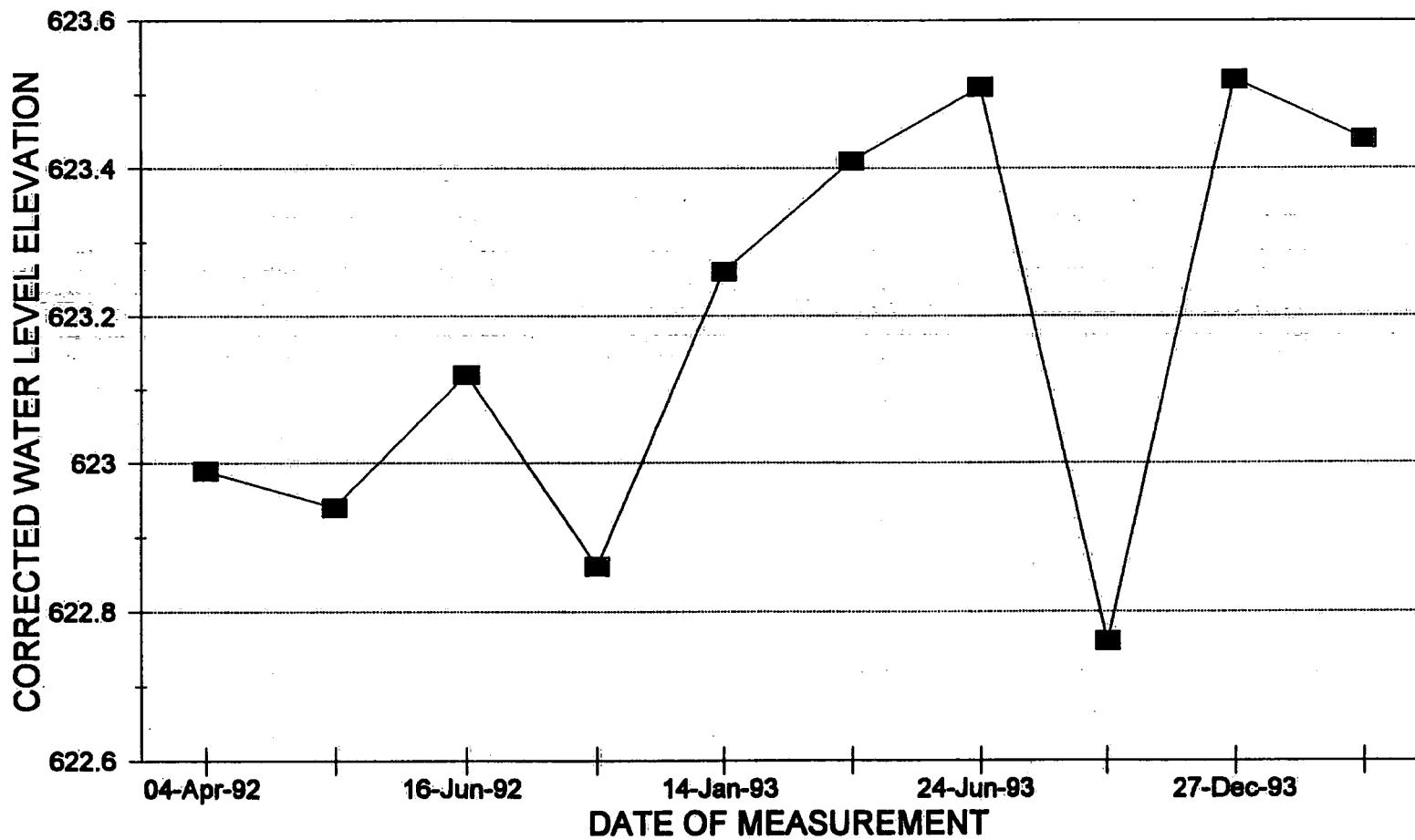
HYDROGRAPH (DC-P3)
(FIRST QUARTER 1992 TO PRESENT)



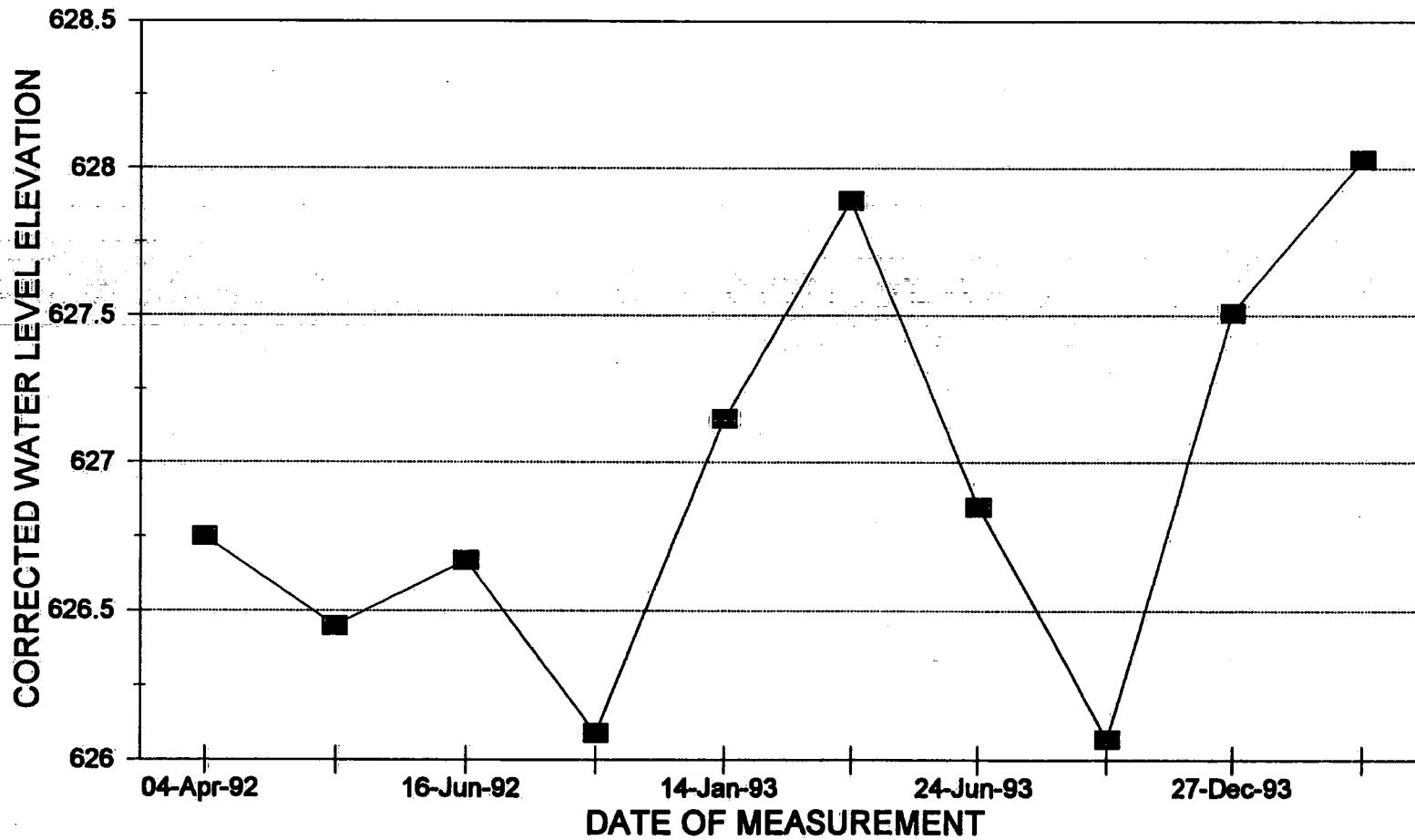
HYDROGRAPH (DC-P4)
(FIRST QUARTER 1992 TO PRESENT)



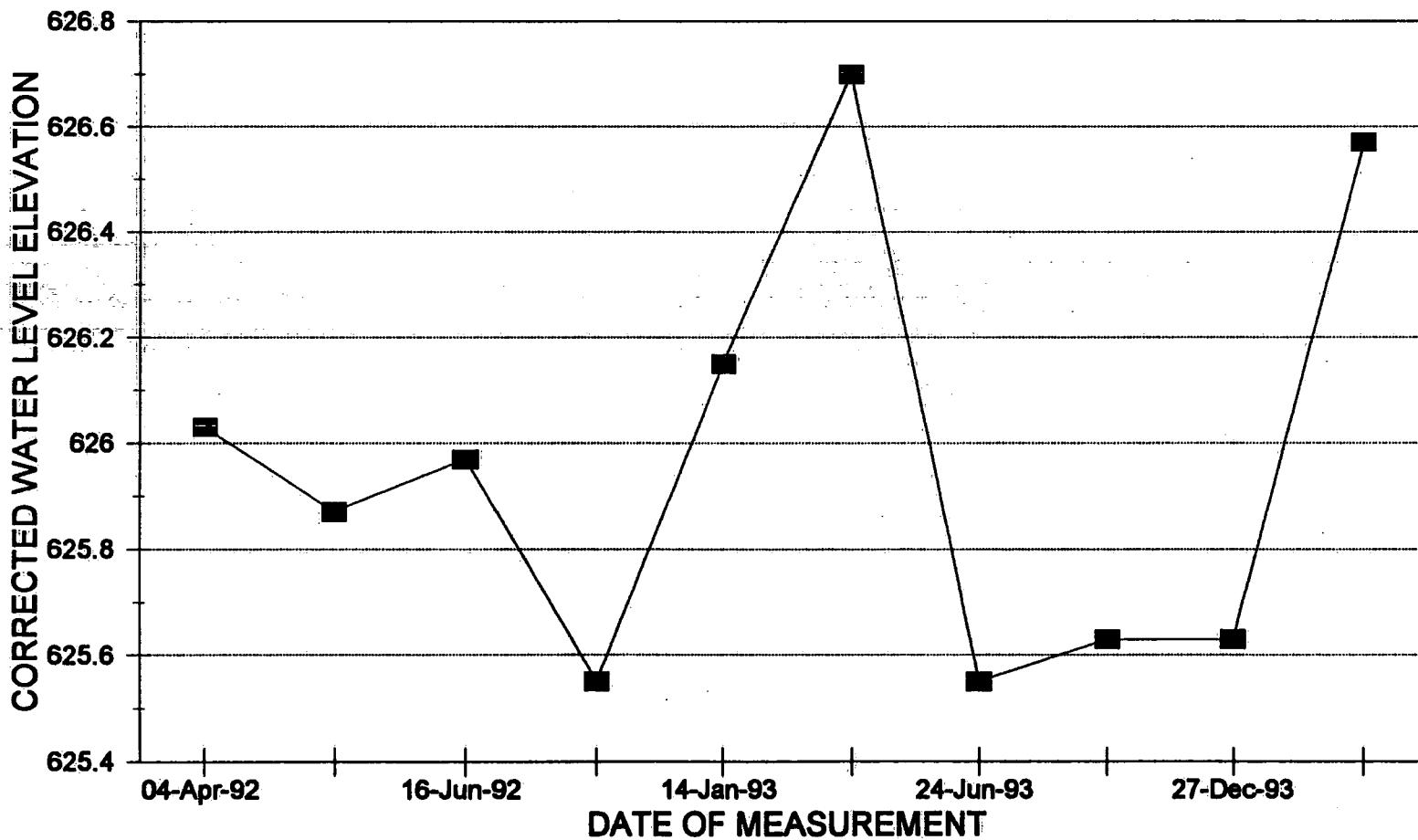
HYDROGRAPH (DC-P5)
(FIRST QUARTER 1992 TO PRESENT)



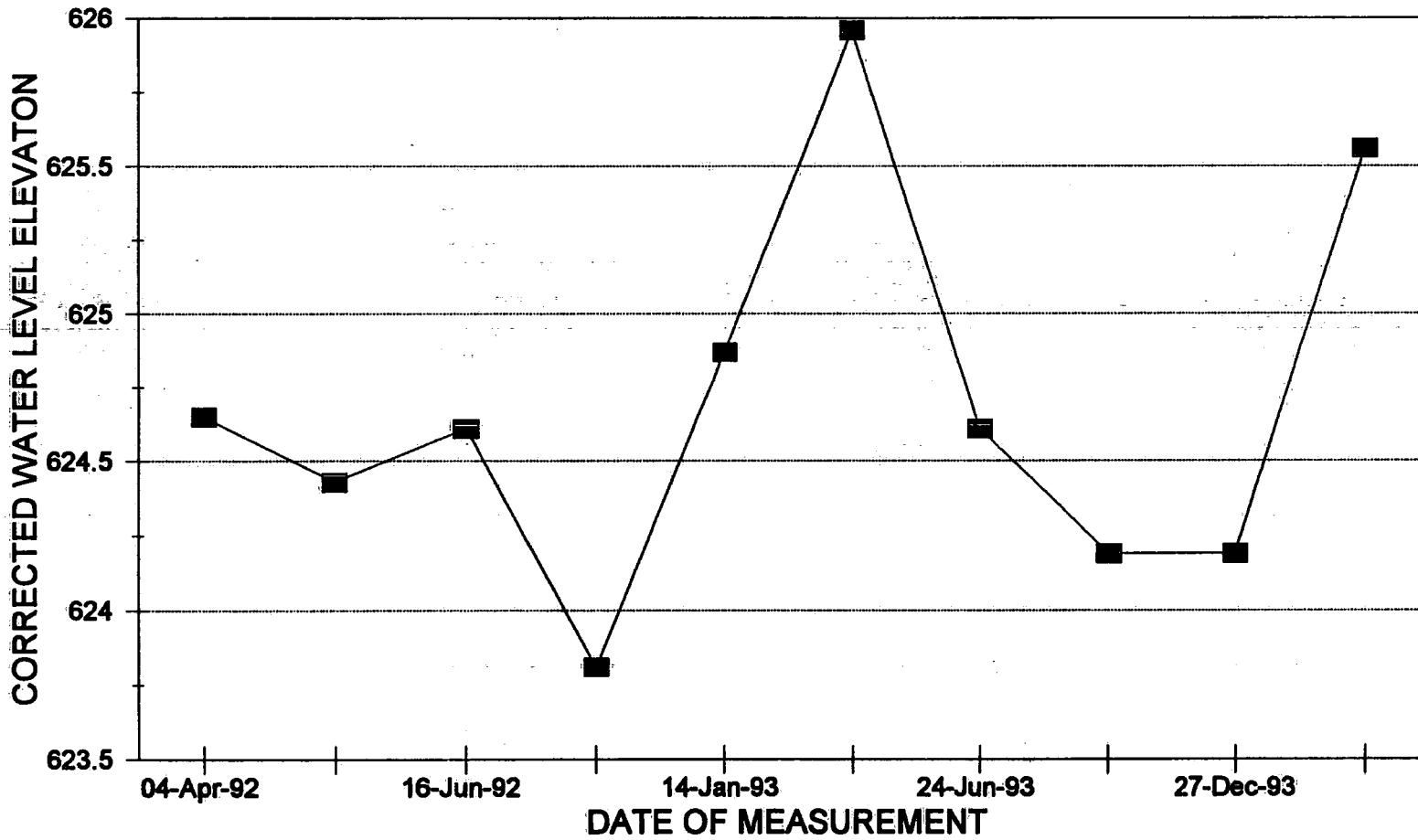
HYDROGRAPH (RP-001)
(FIRST QUARTER 1992 TO PRESENT)



HYDROGRAPH (RP-002)
(FIRST QUARTER 1992 TO PRESENT)



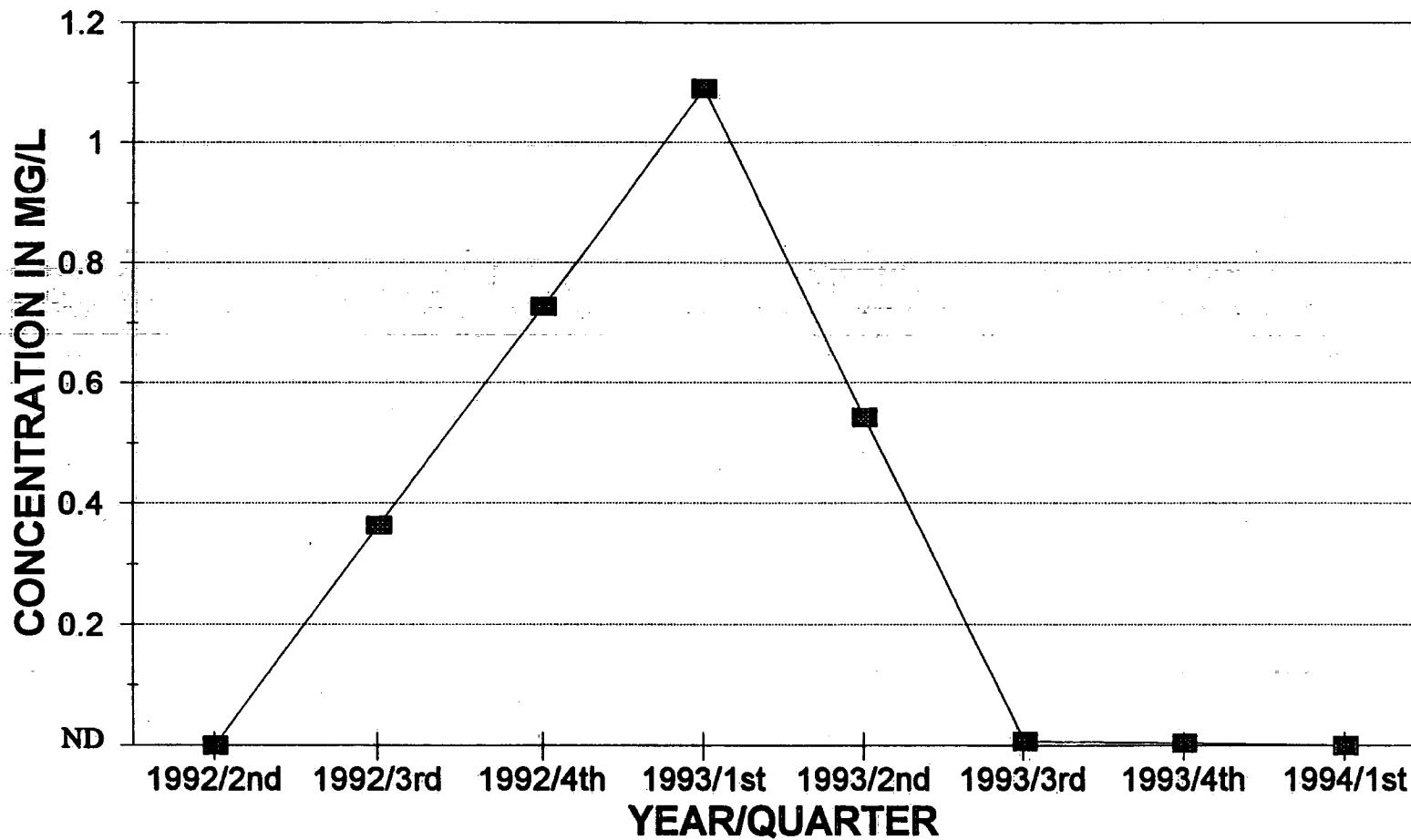
HYDROGRAPH (RP-003)
(FIRST QUARTER 1992 TO PRESENT)



APPENDIX E
SUMMARY OF ANALYTICAL RESULTS

TOTAL BTEX CONCENTRATIONS

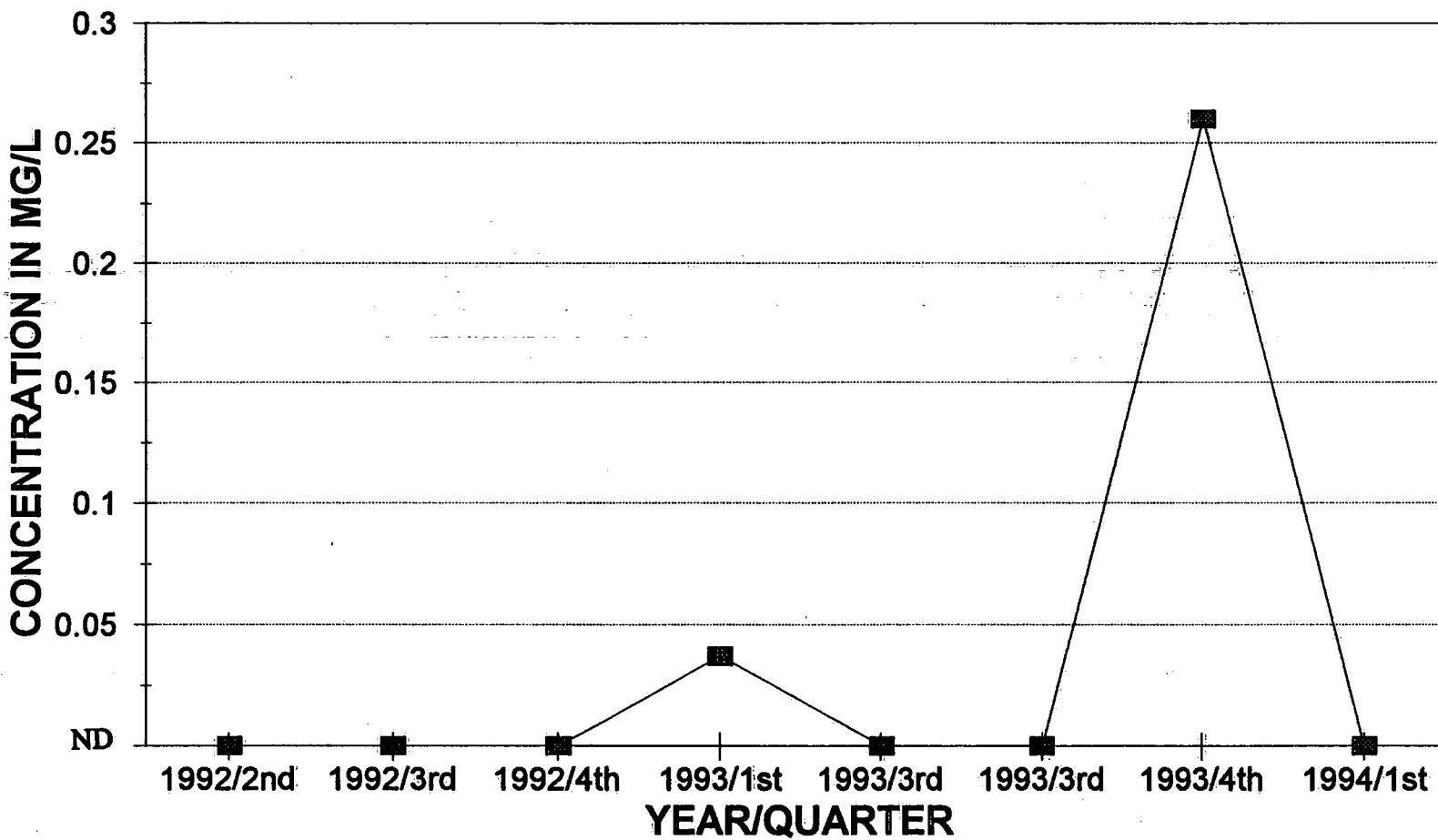
MW-15S



SAMPLES WERE NOT COLLECTED FROM MW-15S DURING 1992/3RD, 1992/4TH, 1993/2ND, AND 1993/4TH. AS A RESULT, AVERAGES ARE PRESENTED.

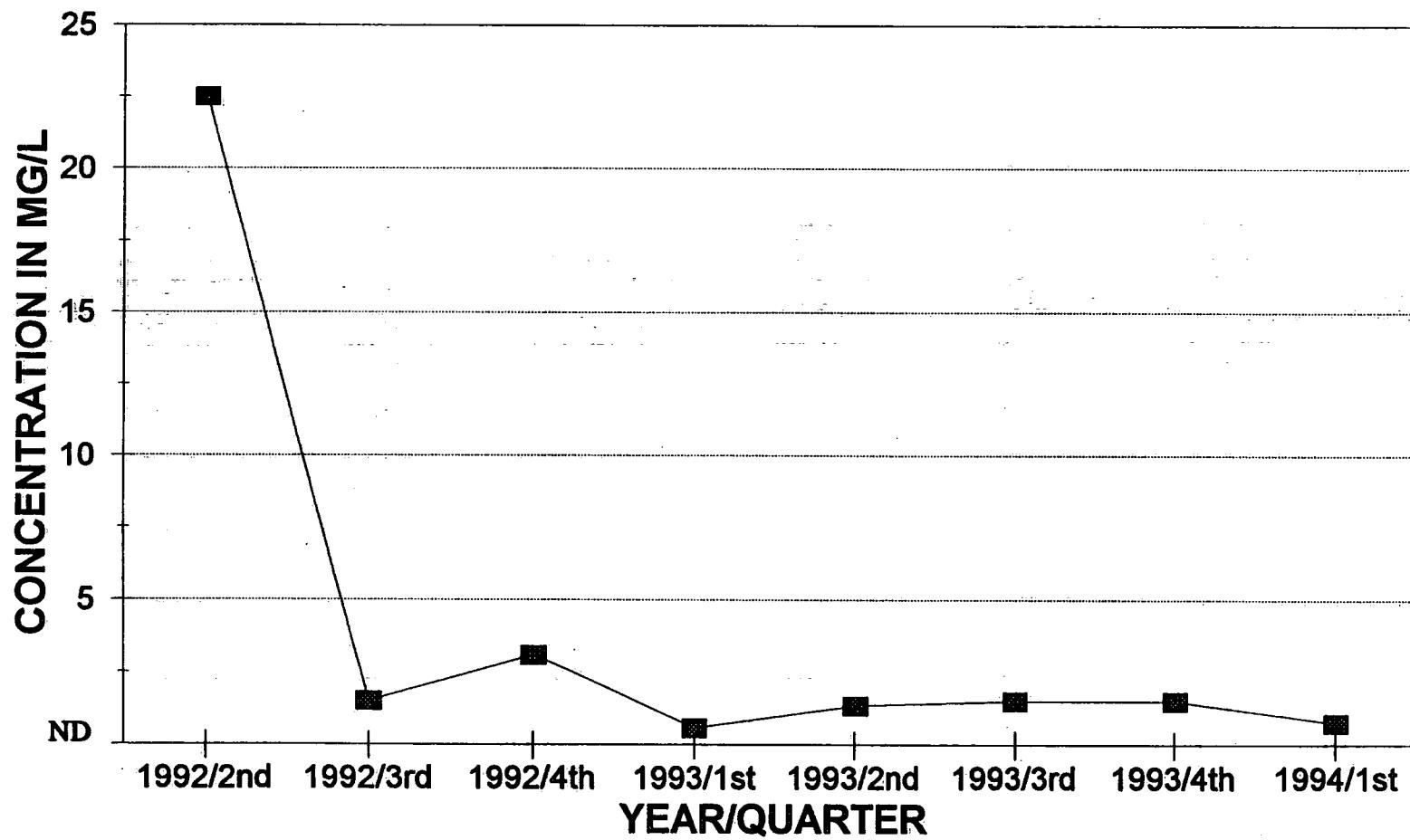
TOTAL BTEX CONCENTRATIONS

MW-25

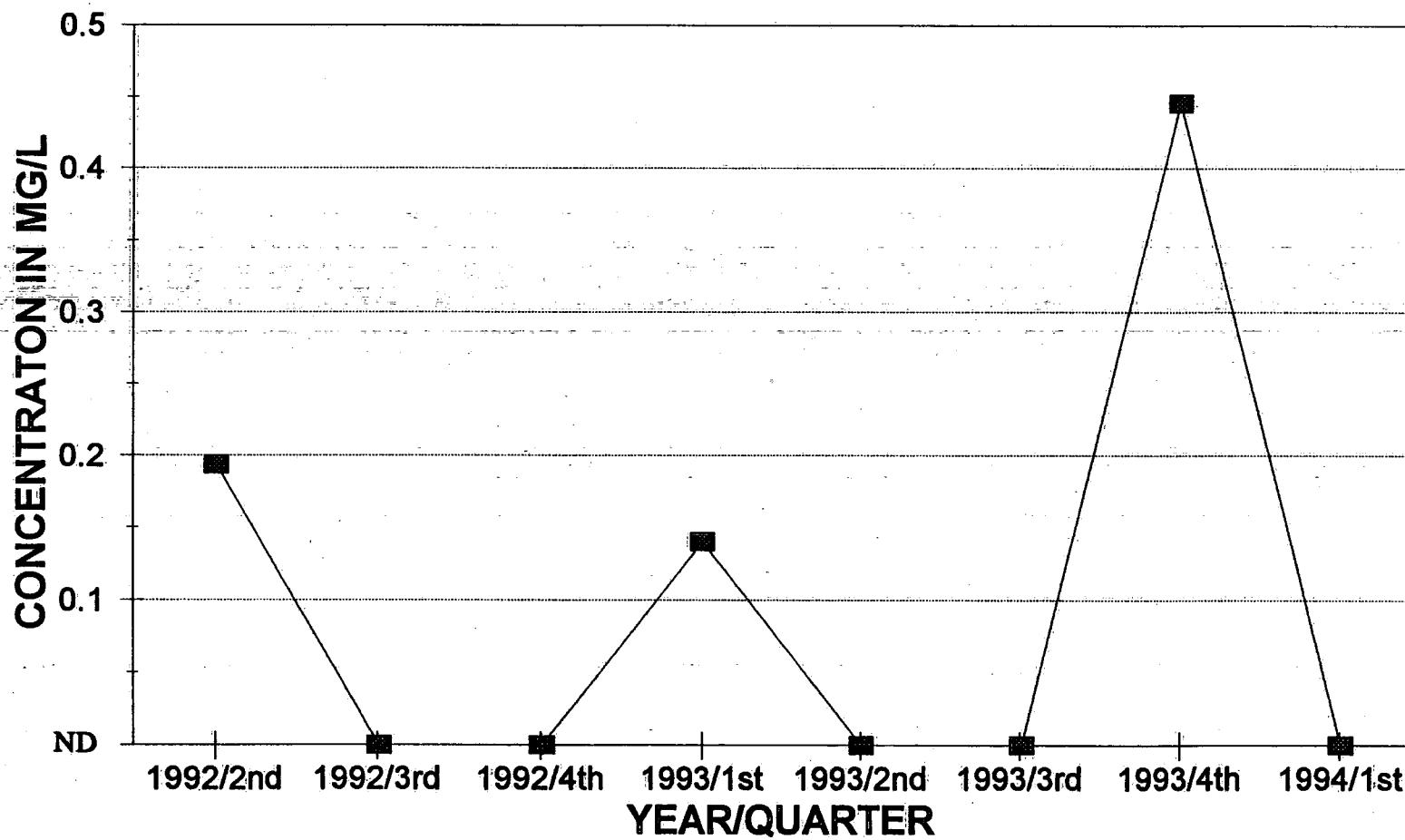


TOTAL BTEX CONCENTRATIONS

MW-22

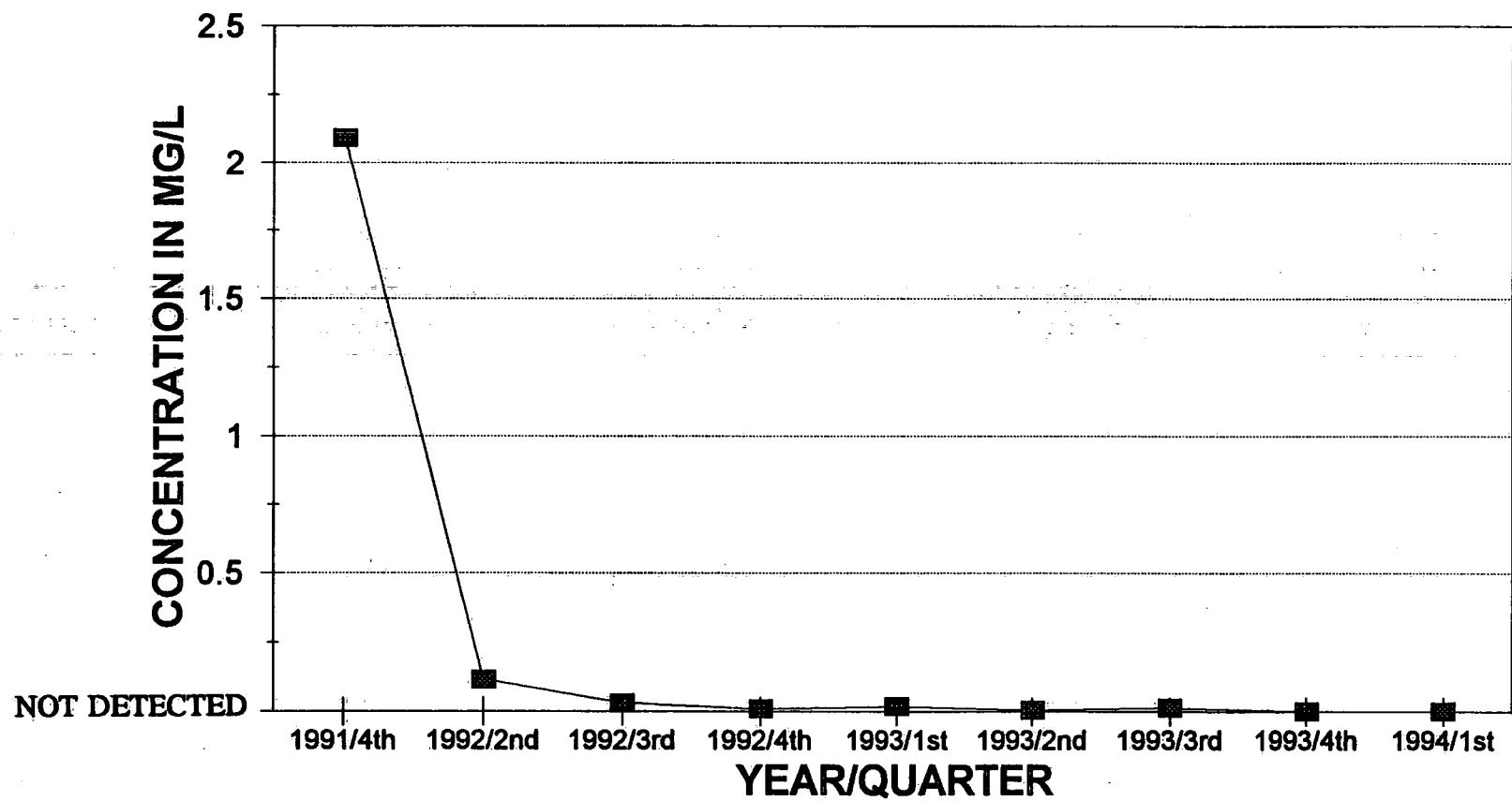


TOTAL BTEX CONCENTRATIONS MW-14S



TOTAL BTEX CONCENTRATIONS

MW-4



SAMPLE CONCENTRATION FOR THE PERIOD 1991/4TH DOES NOT INCLUDE BENZENE.

TABLE 1
BTEX CONCENTRATIONS (mg/L)
L.E. CARPENTER SITE
WHARTON, NEW JERSEY

SAMPLING POINT DESIGNATION	YEAR/QUARTER	BENZENE	TOLUENE	ETHYLBENZENE	XYLENE	TOTAL BTEX
MW-2	1991/4th	N/A	ND	0.023	0.190	NA
MW-3	1991/4th	N/A	0.013	2.600	25.000	NA
MW-4	1991/4th	N/A	ND	0.390	1.700	NA
	1992/2nd	ND	ND	0.033	0.083	0.116
	1992/3rd	ND	ND	ND	0.029	0.029
	1992/4th	ND	ND	0.004	0.006	0.010
	1993/1st	ND	ND	0.012	0.005	0.017
	1993/2nd	ND	0.002	ND	0.002	0.004
	1993/3rd	ND	0.002	0.005	0.006	0.013
	1993/4th	ND	ND	ND	ND	ND
	1994/1st	ND	ND	ND	ND	ND
MW-5	1991/4th	N/A	ND	ND	0.002J	NA
MW-14S	1992/2nd	ND	ND	0.034	0.160	0.194
	1992/3rd	ND	ND	ND	ND	ND
	1992/4th	ND	ND	ND	ND	ND
	1993/1st	ND	ND	ND	0.014	0.140
	1993/2nd	ND	ND	ND	ND	ND
	1993/3rd	ND	ND	ND	ND	ND
	1993/4th	ND	ND	0.086	0.360	0.446
	1994/1st	ND	ND	ND	ND	ND
MW-22	1992/2nd	0.002	0.003	2.500	20.000	22.505
	1992/3rd	ND	ND	ND	1.500	1.500
	1992/4th	ND	ND	0.470	2.600	3.070
	1993/1st	ND	ND	0.120	0.440	0.560
	1993/2nd	ND	0.340	ND	1.000	1.340
	1993/3rd	ND	0.001	0.300	1.200	1.501
	1993/4th	ND	ND	0.290	1.200	1.490
	1994/1st	ND	ND	0.150	0.590	0.740
MW-25	1992/2nd	ND	ND	ND	ND	ND
	1992/3rd	ND	ND	ND	ND	ND
	1992/4th	ND	ND	ND	ND	ND
	1993/1st	ND	ND	0.013	0.024	0.037
	1993/2nd	ND	ND	ND	ND	ND
	1993/3rd	ND	ND	ND	ND	ND
	1993/4th	ND	ND	ND	0.260	0.260
	1994/1st	ND	ND	ND	ND	ND
MW-15S	1992/2nd	ND	ND	ND	ND	ND
	1992/3rd	N/A	N/A	N/A	N/A	N/A
	1992/4th	N/A	N/A	N/A	N/A	N/A
	1993/1st	ND	ND	0.280	0.810	1.090
	1993/2nd	N/A	N/A	N/A	N/A	N/A
	1993/3rd	ND	ND	0.002	0.005	0.007
	1993/4th	N/A	N/A	N/A	N/A	N/A
	1994/1st	ND	ND	ND	ND	ND

NOTE:

N/A DENOTES NOT ANALYZED.

NA DENOTES NOT APPLICABLE.

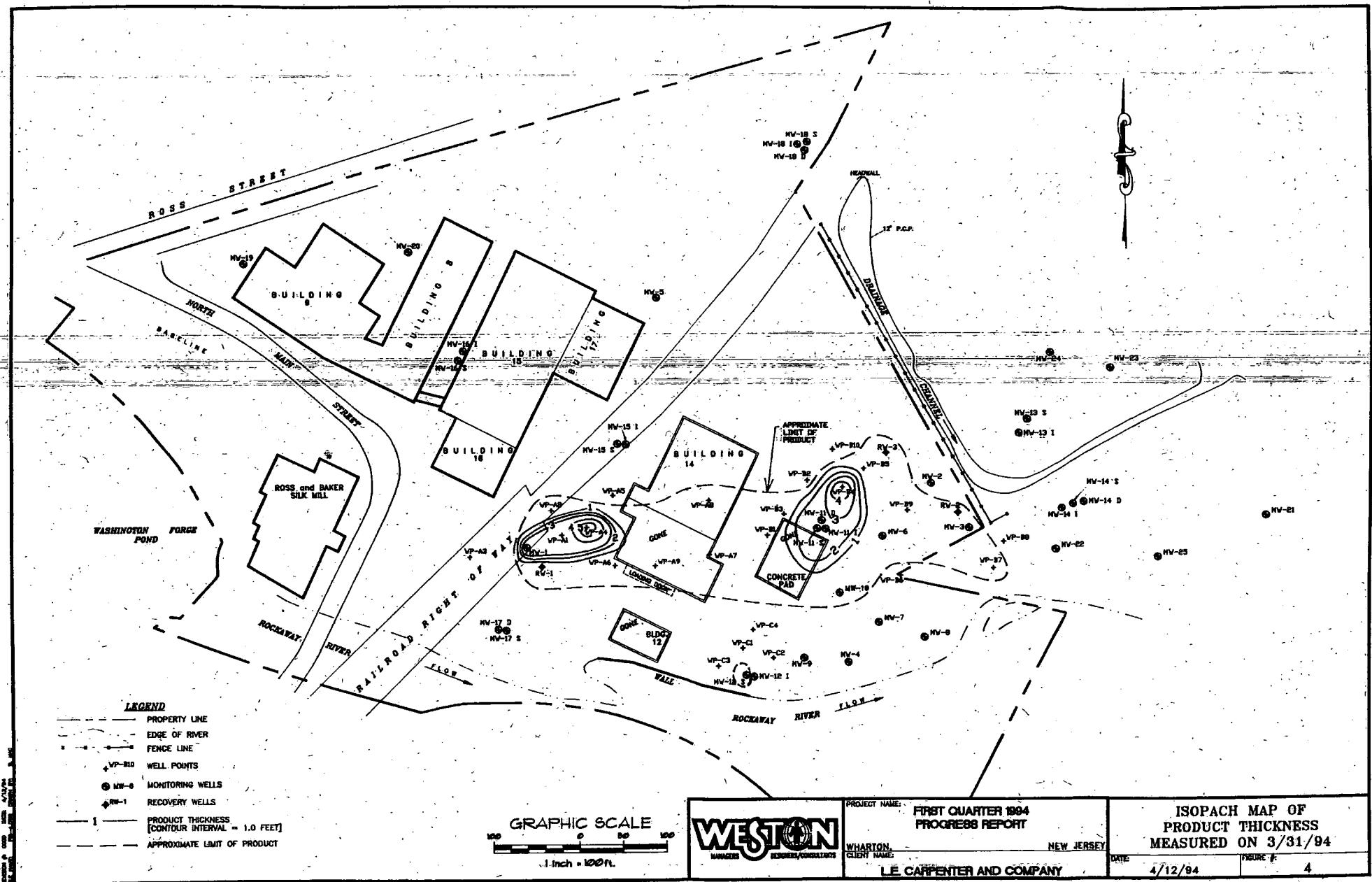
ND DENOTES NOT DETECTED.

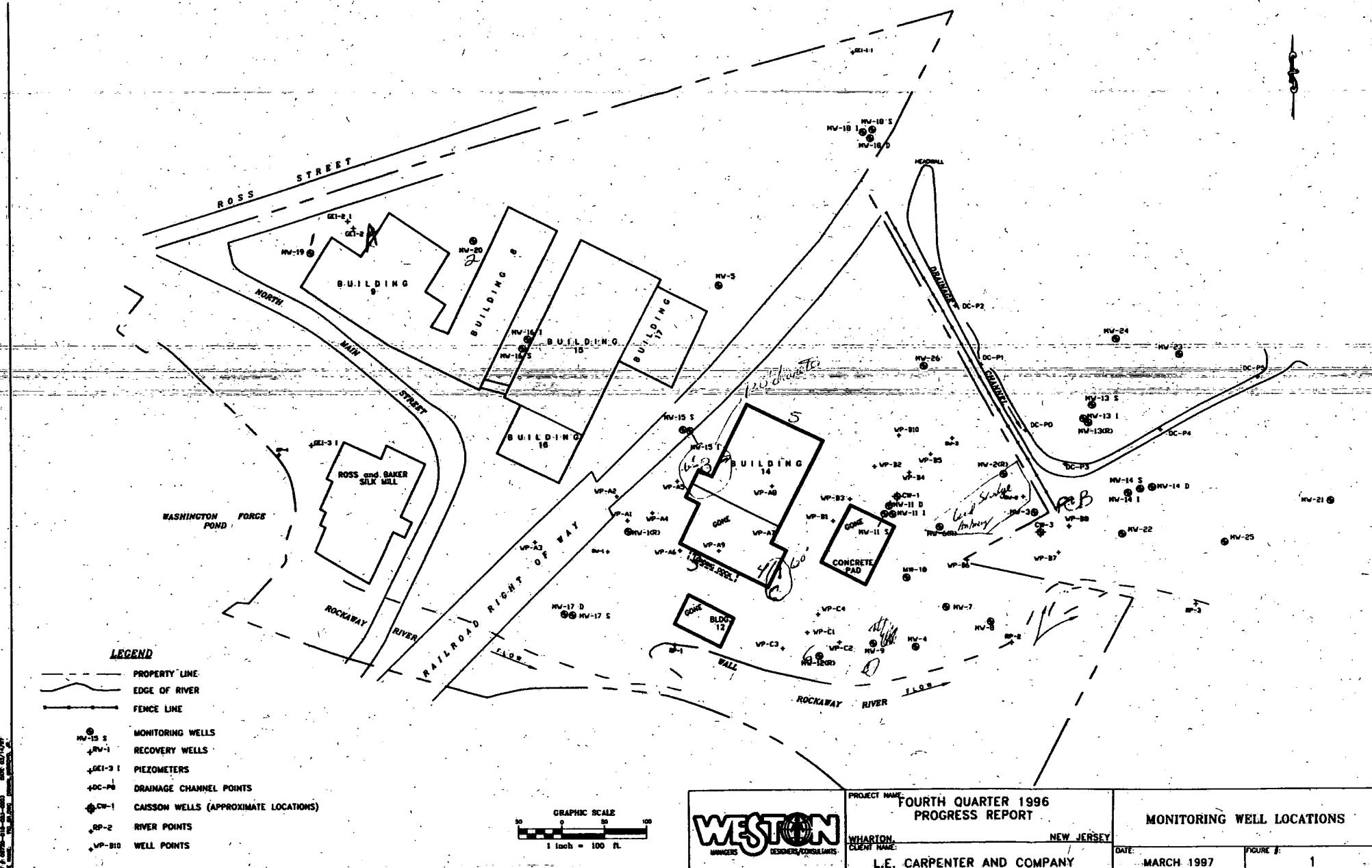


TABLE 2-1

SUMMARY OF BTEX ANALYTICAL RESULTS
FIRST QUARTER 1994
L.E. CARPENTER SITE, WHARTON, NEW JERSEY

Parameter	Concentration (ppm)				
	MW-4	MW-14S	MW-15S	MW-22	MW-25
Benzene	ND	ND	ND	ND	ND
Toluene	ND	ND	ND	ND	ND
Ethylbenzene	ND	ND	ND	.150	ND
Xylene	ND	ND	ND	.590	ND
Total BTEX	ND	ND	ND	.740	ND





A graphic scale bar consisting of a horizontal line with tick marks at 0, 50, and 100. Below the line, the text "1 inch = 100 ft." is written.

WESTON
MANAGERS DESIGNERS/CONSULTANTS

**PROJECT NAME: FOURTH QUARTER 1996
PROGRESS REPORT**

WHARTON
CLIENT NAME: **L.E. CARPENTER AND COMPANY**

MONITORING WELL LOCATIONS

DATE: MARCH 1997 FIGURE 1

